# DLW5400-DLW5500

**Digital Video Recorder**

Installation and Operations Manual

Model Number: DLW5400-DLW5500

Description: Network Digital Video recorder

H.264-Embedded Linux RTOS

8 and 16 Video, Audio, Looping

# CAUTION

- **Please read this user manual carefully to ensure that you can use the device correctly and safely**
- **This manual is suitable for 4-channel, 8-channel and 16-channel series DVR. In this book, we take 200FPS 8-channel DVR as a sample. All examples and pictures used are conforming to it.**
- **As product update, the contents of this manual are subject to change without notice.**
- **This device should be operated only from the type of power source indicated on the marking label. The voltage of the power must be verified before using. If not in use for a long time, pull out the plug from the socket**
- **Do not install this device near any heat sources such as radiators, heat registers, stoves or other device that produce heat**
- **Do not install this device near water. Clean only with a dry cloth**
- **Do not block any ventilation openings. And ensure well ventilation around the machine**
- **Do not power off the DVR at normal recording condition! The correct operation to shut off DVR is to stop recording firstly, and then select "shut-down" button at the right of the menu bar to exit, and finally to cut off the power.**
- **This machine is indoor using equipment. Do not expose the machine in rain or moist environment. In case any solid or liquid get into the machine's case, please cut off the power supply immediately, and ask for qualified technicians to check the machine before restart**
- **Refer all servicing to qualified service personnel. No any parts repaired by yourself without technical aid or approval.**

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# CHAPTER 1 Introduction

## 1.1 DVR Introduction

This model DVR (Digital Video Recorder) is designed specially for CCTV system. It adopts high performance video processing chips and embedded Linux system. Meanwhile, it utilizes many most advanced technologies, such as standard H.264 with low bit rate, Dual stream, SATA interface, VGA output mouse supported, IE browser supported with full remote control, mobile view(by phones), etc., which ensure its powerful functions and high stability. Due to these distinctive characteristics, it is widely used in banks, telecommunication, transportation, factories, warehouse, and irrigation and so on.

## 1.2 Main Features

**COMPRESSION FORMAT**

- Standard H.264 compression with low bit rate

**LIVE SURVEILLANCE**

- Support VGA output
- Support channel security by hiding live display
- Display the local record state and basic information
- Support USB or PS/2 mouse to make full control

**RECORD MEDIA**

- Support several SATA HDD or 1 X SATA DVD Writer to record for a longer time without any limitation

**BACKUP**

- Support USB 2.0 devices to backup
- Support built-in SATA DVD writer to backup
- Support saving recorded files with AVI standard format to a remote computer through internet

**RECORD & PLAYBACK**

- Record modes: Manual, Schedule, Motion detection and Sensor alarm recording
- Support recycle after HDD full
- Resolution, frame rate and picture quality are adjustable
- 64MB for every video file packaging
- 4/8/16 audio channels available
- Two record search mode: time search and event search
- Support single and 4 screen playback
- Support deleting and locking the recorded files one by one
- Support remote playback in Network Client through LAN or internet

**ALARM**

- 4/8/16 channel alarm input and 4 channel alarm output available
- Support schedule for motion detection and sensor alarm
- Support pre-recording and post recording
- Support linked channels recording once motion or alarm triggered on certain channel
- Support linked PTZ preset and auto cruise of the corresponding channel

**PTZ CONTROL**

- Support various PTZ protocols
- Support 128 presets and 32 auto cruise tracks
- Support remote PTZ control through internet

**SECURITY**

- Two level user group management: advance and normal, rights authorized by administrator
- Support 1 administrator and 15 users.
- Support event log recording and checking, events unlimited

**NETWORK**

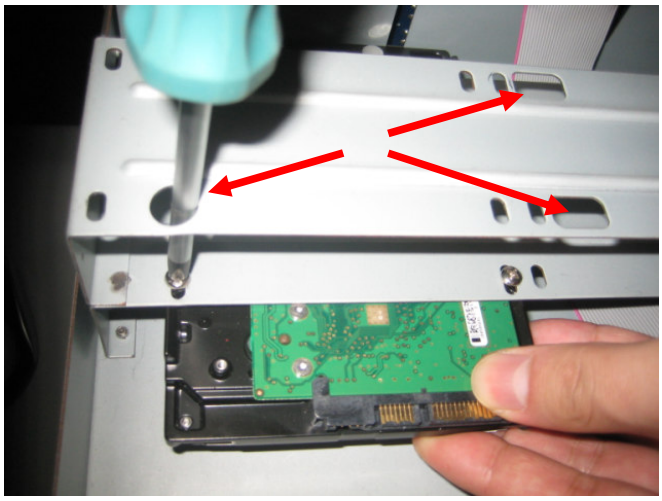
- Support TCP/IP, DHCP, PPPoE, DDNS protocol
- Support IE browser to do remote view
- Support max 5 connection simultaneously
- Support dual stream. Network stream is adjustable independently to fit the network bandwidth and environment.
- Support picture snap and color adjustment in remote live
- Support remote time and event search, mouse drag search, single channel playback with picture snap
- Support remote PTZ control with preset and auto cruise
- Support remote full menu setup, changing all the DVR parameters remotely
- Support mobile surveillance by smart phones or PDA with WinCE OS, 3G network available
- Support CMS to manage multi devices on internet

**HDD installation DLW5400-5500-5600-5700AL**

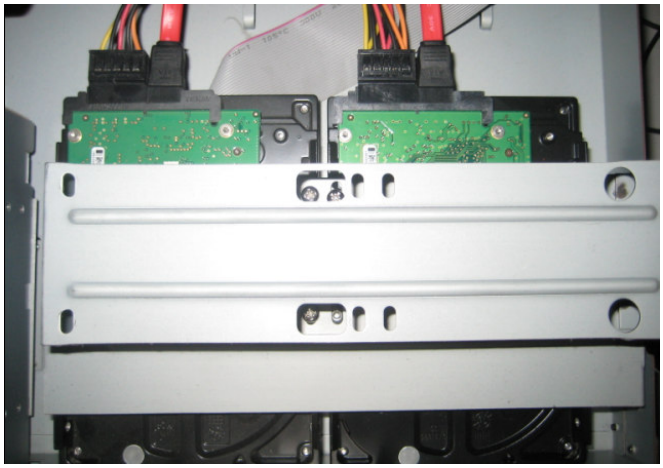
1. Loosen the screws and open the top case.

2. Loosen the power and SATA cables.

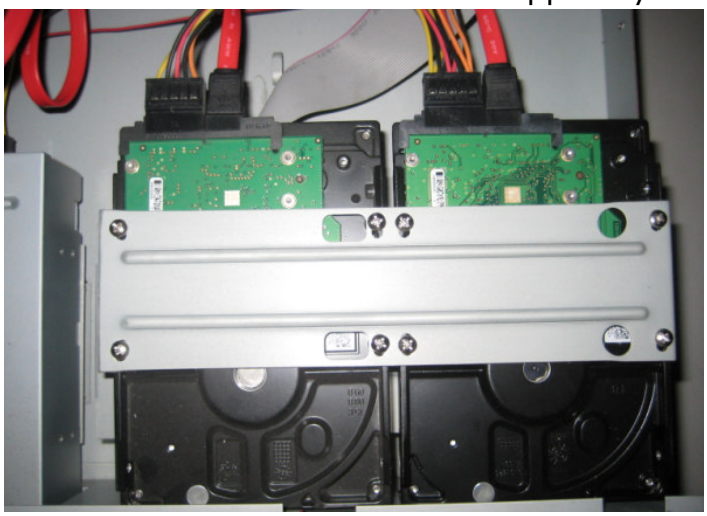
3. If you have 3 or 4 HDD, please install HDD on the lower layer of the HDD stand as below first.
Notice: It is not necessary to remove the top bracket. There are the related holes for screwdriver on the upper stand.



4. Tighten the screws and connect the cables.

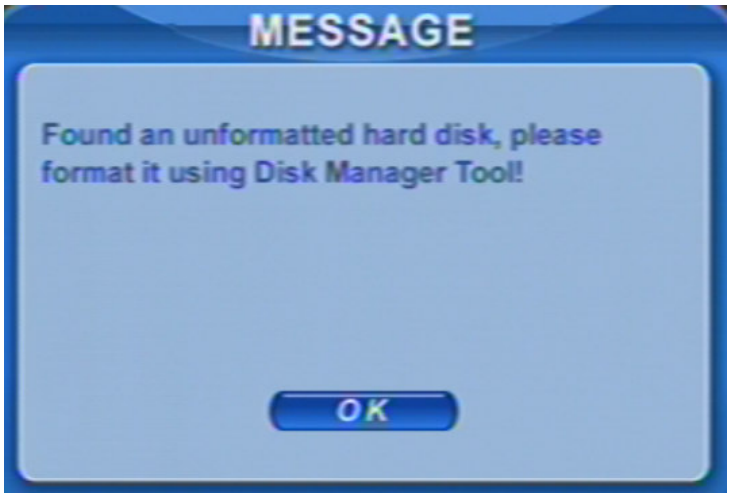


5. Then install other HDD on the upper layer as above.



6. Place the top cover back and tighten the screws.

7. Power on the unit. If it detect the HDD, it will show below information on the screen once entering the system.




8. Enter *Menu---System---TOOLS---Disk manager*. Choose the HDD one by one and click

# CHAPTER 2 Hardware Installation

***Notice**: Check the unit and the accessories after getting the DVR.*

*Please disconnect the power before being connected to other devices. Do not hot plug in/out*

## 2.1 Install Hard Drive &DVD Writer

### 2.1.1 Install Hard Drive

***Notice**: 1. 4-ch supports four SATA hard-disk drives; 8-ch/16-ch supports eight SATA hard-disk drives. Please use the hard-disk drive the manufacturers recommend specially for security and safe field.*

*2. Please calculate HDD capacity according to the recording setting. For the details, please refer to "Appendix B Calculation of Recording Capacity".*

**STEP1** Unscrew and Open the top cover

**STEP2** Place HDD into the position shown as fig. 2.1

Fig 2.1 Installation of hard-disk drive

**STEP3** Fix the HDD firmly by screws, and then connect with data cables.

In addition, users can put hard-disk drive into the HDD box shown as Fig. 2.2 if they do not need install DVD writer.

Fig. 2.2 Hard-disk Drive Box

### 2.1.2 Install DVD Writer

***Notice***: *1. The writers must be the compatible devices we recommend. Please refer to "Appendix C Compatible Devices"*

*2. This device is only for backup*

**STEP1** Unscrew and Open the top cover

**STEP2** Connect with the power and data cables. Put DVD Writer into the position of CDROM. Usually, if it is required to attach DVD Writer when ordering, the manufacturer will install it well at leaving factory.

***Notice***: *If some users do not need install DVD Writer, they can install hard-disk drive here as said the above.*

## 2.2 Front Panel Instructions

**1. 4-ch Front Panel is shown as Fig 2.3**

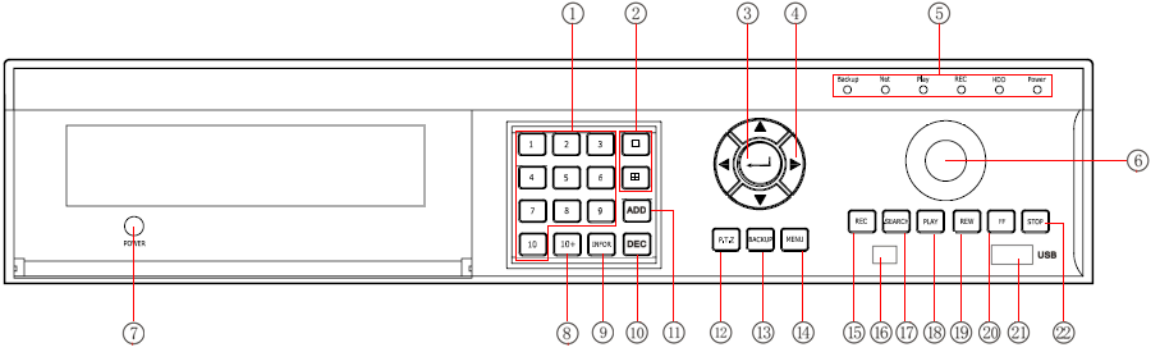



Fig 2.3 Front Panel for 4-ch

| Item | Name | Function |
|---|---|---|
| 1 | Digital keys | Input digital number or select the number of camera |
| 2 | Multi-screen button | Change screen display like single, 4, 9 ,and 16 screens |
| 3 | Enter button | To confirm the choice or setup |
| 4 | Direction | Direction buttons. Move cursor in setup or pan/title PTZ |
| 5 | Indicators | Working indicators of power and network, etc. |
| 6 | Shuttle | Control the playback speed |
| 7 | Power | Shot switch off |
| 8 | 10+ | Input number 10 and the above number together with other digital keys. |
| 9 | INFO | Check recording data |
| 10 | DEC | Decrease the value in setting |
| 11 | ADD | Increase the value in setting |
| 12 | P.T.Z | Enter PTZ mode |
| 13 | BACKUP | Enter backup mode |
| 14 | MENU | Enter menu |
| 15 | REC | Record manually |
| 16 | SEARCH | Enter search mode |
| 17 | IR receiver | For remote controller |

| | | |
|---|---|---|
| 18 | PLAY | Enter play interface |
| 19 | REW | Rewind |
| 20 | FF | Fast forward |
| 21 | USB port | To connect external USB devices like USB flash, USB HDD for backup or update firmware |
| 22 | STOP | Quit playback mode |

Tab 2.1 Definition of Front Panel Buttons

**2. 8-ch Front Panel is shown as Fig 2.4**

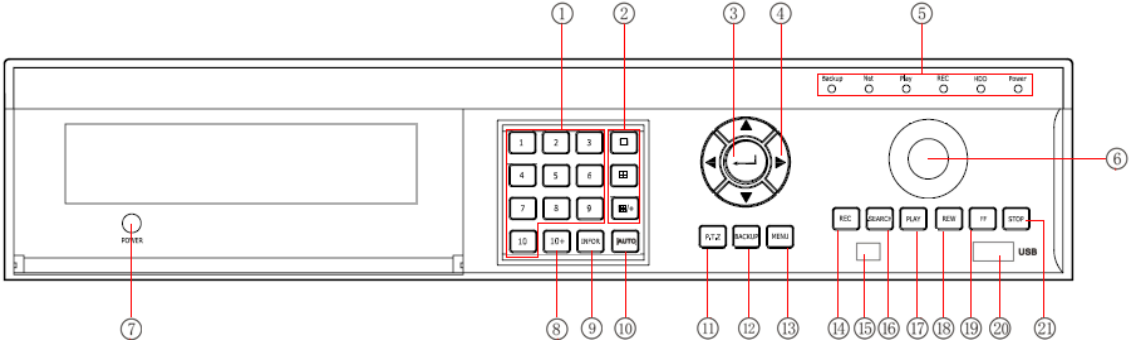



Fig 2.4 Front Panel for 8-ch

| Item | Name | Function |
|---|---|---|
| 1 | Digital keys | Input digital number or select the number of camera |
| 2 | Multi-screen button | Change screen display like single, 4, 9 ,and 16 screens |
| 3 | Enter button | To confirm the choice or setup |
| 4 | Direction | Direction buttons. Move cursor in setup or pan/title PTZ |
| 5 | Indicators | Working indicators of power and network, etc. |
| 6 | Shuttle | Control the playback speed |
| 7 | Power | Shot switch off |
| 8 | 10+ | Input number 10 and the above number together with other digital keys. |

| | | |
|---|---|---|
| 9 | INFO | Check recording data |
| 10 | AUTO/Dwell | Dwell |
| 11 | P.T.Z | Enter PTZ mode |
| 12 | BACKUP | Enter backup mode |
| 13 | MENU | Enter menu |
| 14 | REC | Record manually |
| 15 | SEARCH | Enter search mode |
| 16 | IR receiver | For remote controller |
| 17 | PLAY | Enter play interface |
| 18 | REW | Rewind |
| 19 | FF | Fast forward |
| 20 | USB port | To connect external USB devices like USB flash, USB HDD for backup or update firmware |
| 21 | STOP | Quit playback mode |

Tab 2.2 Definition of Front Panel Buttons

**3. 16-ch Front Panel is shown as Fig 2.5**

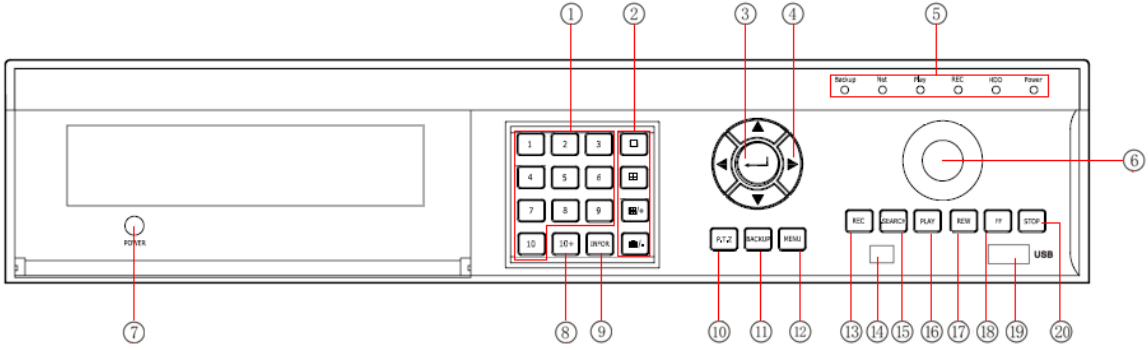



Fig 2.5 Front Panel for 16-ch

| Item | Name | Function |
|---|---|---|
| 1 | Digital keys | Input digital number or select the number of camera |
| 2 | Multi-screen button | Change screen display like single, 4, 9 ,and 16 screens |
| 3 | Enter button | To confirm the choice or setup |
| 4 | Direction | Direction buttons. Move cursor in setup or pan/title PTZ |
| 5 | Indicators | Working indicators of power and network, etc. |
| 6 | Shuttle | Control the playback speed |
| 7 | Power | Shot switch off |
| 8 | 10+ | Input number 10 and the above number together with other digital keys. |
| 9 | INFO | Check recording data |
| 10 | P.T.Z | Enter PTZ mode |
| 11 | BACKUP | Enter backup mode |
| 12 | MENU | Enter menu |
| 13 | REC | Record manually |
| 14 | SEARCH | Enter search mode |
| 15 | IR receiver | For remote controller |
| 16 | PLAY | Enter play interface |
| 17 | REW | Rewind |
| 18 | FF | Fast forward |
| 19 | USB port | To connect external USB devices like USB flash, USB HDD for backup or update firmware |
| 20 | STOP | Quit playback mode |

Tab 2.3 Definition of Front Panel Buttons

## 2.3 Rear Panel Instructions

### 2.3.1 Rear Panel Interface

**1. 4-ch rear panel is shown as Fig 2.6**

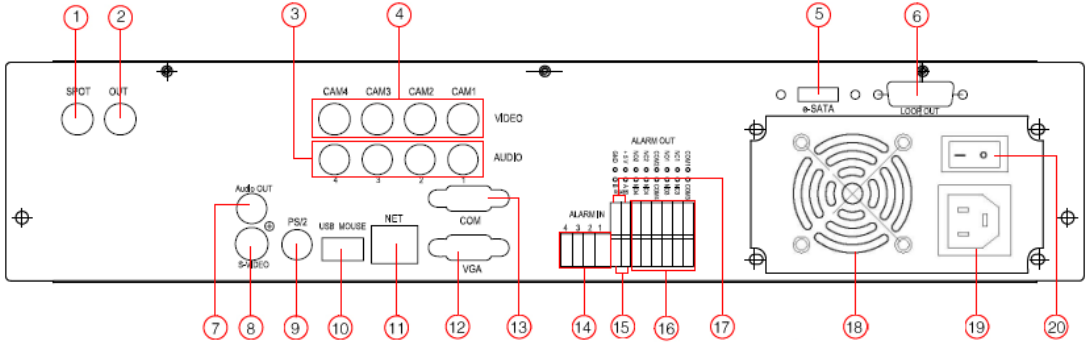



Fig 2.6 Rear Panel for 4-channel DVR

| Item | Name | Description |
|---|---|---|
| 1 | SPOT OUT | Connect to monitor as an AUX output channel by channel. Only video display, no menu show |
| 2 | VIDEO OUT | Connect to monitor |
| 3 | AUDIO IN | Audio of channel from 1 to 4 |
| 4 | VIDEO IN | Video input channels from 1-4 |
| 5 | E-SATA | Connect to HDD for backup |
| 6 | LOOP OUT | For outputting each channel's image independently |
| 7 | AUDIO OUT | Audio output, connect to the sound box |
| 8 | S-VIDEO | S-Video output, connect to monitor |
| 9 | PS/2 port | Connect to PS/2 mouse |
| 10 | USB MOUSE | Only for USB mouse |
| 11 | NET | Connected to internet |
| 12 | VGA port | VGA output, connect to monitor |
| 13 | COM | For debug |
| 14 | ALARM IN | Connect to external sensor1-4 |
| 15 | RS485 | Connect to speed dome |

| Item | Name | Description |
|---|---|---|
| 16 | ALARM OUT | Relay output1-4. Connect to external alarm. |
| 17 | +5V and GND | +5V and grounding |
| 18 | FAN | For cooling the device |
| 19 | POWER INPUT | Connect with power cable |
| 20 | POWER SWITCH | 220V or 110V |

Tab 2.4 Definition of Rear Interface

**2. 8-ch rear panel is shown as Fig 2.7**

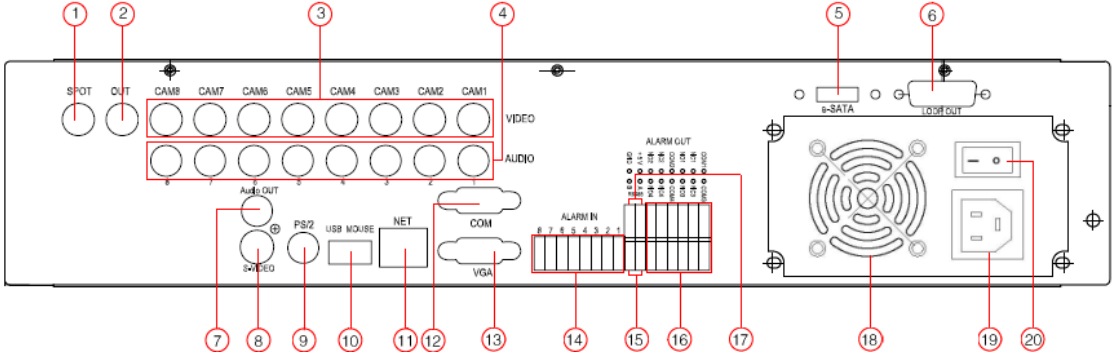



Fig 2.7 Rear Panel for 8-channel DVR

| Item | Name | Description |
|---|---|---|
| 1 | SPOT OUT | Connect to monitor as an AUX output channel by channel. Only video display, no menu show |
| 2 | VIDEO OUT | Connect to monitor |
| 3 | VIDEO IN | Video input channels from 1-8 |
| 4 | AUDIO IN | Audio of channel from 1 to 8 |
| 5 | E-SATA | Connect to HDD for backup |
| 6 | LOOP OUT | For outputting each channel's image independently |

| Item | Name | Description |
|---|---|---|
| 7 | AUDIO OUT | Audio output, connect to the sound box |
| 8 | S-VIDEO | S-Video output, connect to monitor |
| 9 | PS/2 port | Connect to PS/2 mouse |
| 10 | USB MOUSE | Only for USB mouse |
| 11 | NET | Connected to internet |
| 12 | COM | For debug |
| 13 | VGA port | VGA output, connect to monitor |
| 14 | ALARM IN | Connect to external sensor1-8 |
| 15 | RS485 | Connect to speed dome |
| 16 | ALARM OUT | Relay output1-4. Connect to external alarm. |
| 17 | +5V and GND | +5V and grounding |
| 18 | FAN | For cooling the device |
| 19 | POWER INPUT | Connect with power cable |
| 20 | POWER SWITCH | 220V or 110V |

Tab 2.5 Definition of Rear Interface

**3. 16-ch rear panel is shown as Fig 2.8**

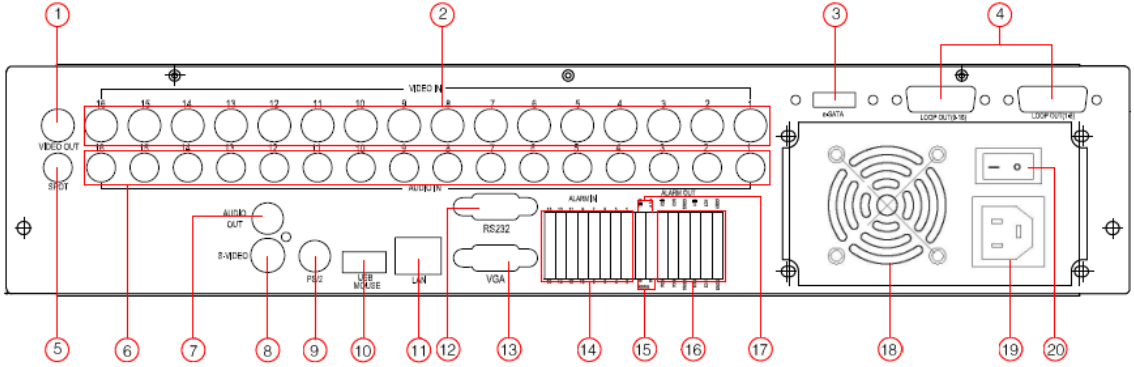



Fig 2.8 Rear Panel for 16-channel DVR

| Item | Name | Description |
|---|---|---|
| 1 | VIDEO OUT | Connect to monitor |
| 2 | VIDEO IN | Video input channels from 1-16 |
| 3 | E-SATA | Connect to HDD for backup |
| 4 | LOOP OUT | For outputting each channel's image independently |
| 5 | SPOT OUT | Connect to monitor as an AUX output channel by channel. Only video display, no menu show |
| 6 | AUDIO IN | Audio of channel from 1 to 16 |
| 7 | AUDIO OUT | Audio output, connect to the sound box |
| 8 | S-VIDEO | S-Video output, connect to monitor |
| 9 | PS/2 port | Connect to PS/2 mouse |
| 10 | USB MOUSE | Only for USB mouse |
| 11 | LAN | Connected to internet |
| 12 | RS232 | For debug |
| 13 | VGA port | VGA output, connect to monitor |
| 14 | ALARM IN | Connect to external sensor1-16 |
| 15 | RS485 | Connect to speed dome |
| 16 | ALARM OUT | Relay output1-4. Connect to external alarm. |
| 17 | +5V and GND | +5V and grounding |
| 18 | FAN | For cooling the device |
| 19 | POWER INPUT | Connect with power cable |
| 20 | POWER SWITCH | 220V or 110V |

Tab 2.6 Definition of Rear Interface

***Notice**: The resolution of VGA output is 800*600/60Hz. If connected through VGA port, please assure your display supports the display mode. (For most of LCD screens, they can adapt to it automatically without adjustment manually)*

### 2.3.2 Install Sensor &Alarm

The DVR has eight channel alarm input and four-channel alarm output.

**Alarm Input:**

The alarm input is triggered by electric level (High: 5V, Low: 0V). Users can connect external sensors, like gas detector, smoke detector and infrared detector. Once the DVR detects that the electric level meets the setting that users make, it will trigger DVR to record or alarm out.

For example, a sensor is connected with alarm input 1. If the sensor gives relay out (switch on/off), users need to set the sensor according to the switch status at alarm. If the switch is open at alarm, users need to set SENSOR TYPE to be NC (Normal Close). Cable A and B will be disconnected once the sensor detects event. It will detect +5V (high level) to sensor 1 when events happen. DVR is triggered and starts to record and output alarm.

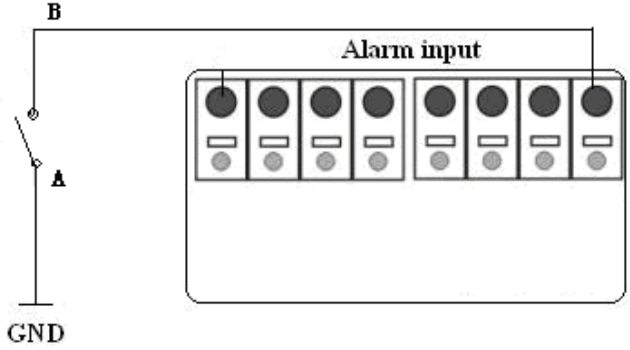



Fig 2.9 Alarm status

**Alarm output:**

The DVR has 4-channel relay alarm output, which just give on/off signal to external alarm. The status of these pin are illustrated as Fig. 2.10.

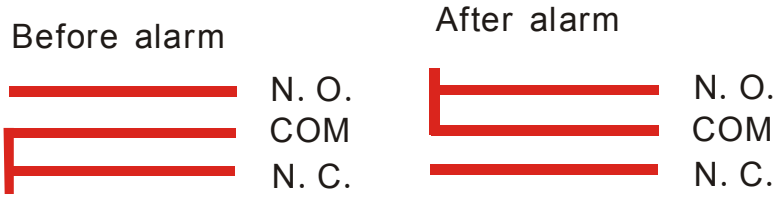



Fig 2.10 Relay Output Status

Users need connect their alarm according to the NO or NC type of the alarm. One connection example as Fig 2.11

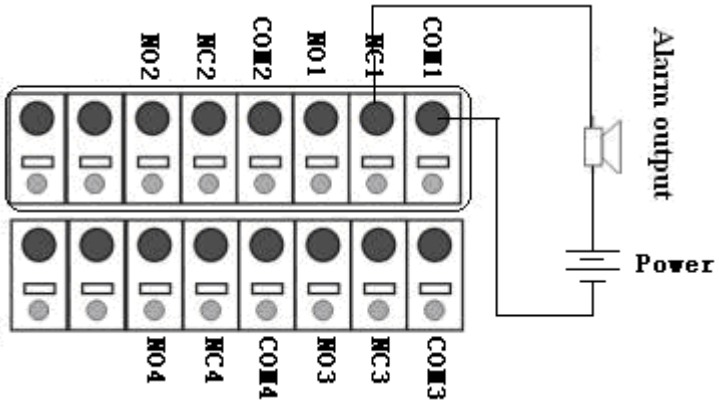



Fig 2.11 Alarm Output Connection

## 2.4 Remote Controller

It uses two AAA size batteries and works after loading batteries as following

**STEP1** Open the battery cover of the Remote Controller
**STEP2** Place batteries. Please take care the poles (+ and -)
**STEP3** Replace the battery cover

***Notice**: Frequently defect checking as following*

*1. Check batteries poles*

*2. Check the remaining charge in the batteries*

*3. Check IR controller sensor is mask*

*If it doesn't still work, Please change a new remote controller to try, or contact your dealers*

The interface of remote controller is shown in Fig 2.12 Remote Controller.

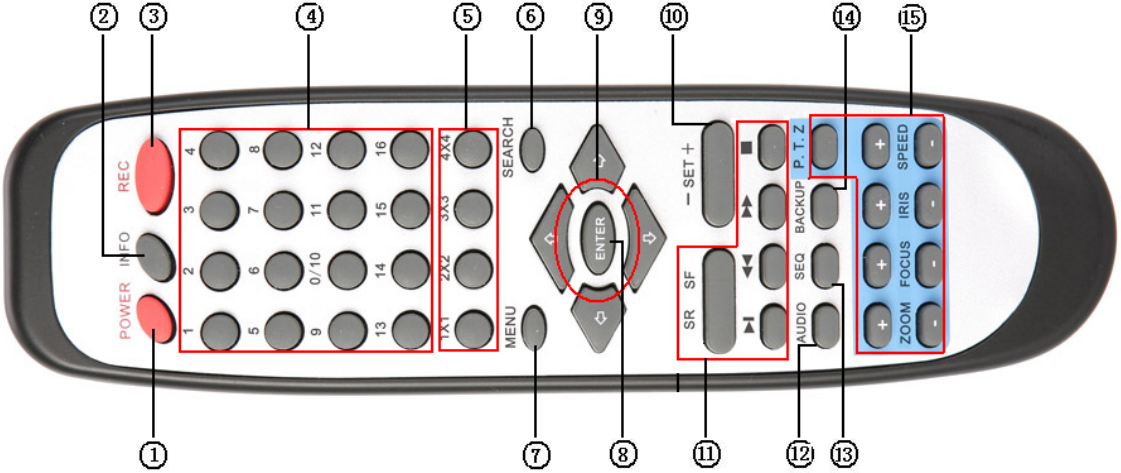



Fig 2.12 Remote Controller

| Item | Name | Function |
|---|---|---|
| 1 | Power Button | Soft switch off to stop firmware running. Do it before power off. |
| 2 | INFOR Button | Get information about the DVR like firmware version, HDD information |
| 3 | REC Button | To record manually |
| 4 | Digital Button | Input digital or choose camera |
| 5 | Multi Screen Button | To choose multi screen display mode |
| 6 | SEARCH Button | To enter search mode |
| 7 | MENU Button | To enter menu |
| 8 | ENTER Button | To confirm the choice or setup |
| 9 | Direction Button | Move cursor in setup or pan/title PTZ |

| Item | Name | Function |
|---|---|---|
| 10 | +/- Button | To increase or decrease the value in setup |
| 11 | Playback Control Button | To control playback, Fast forward/rewind/stop/single frame play |
| 12 | AUDIO Button | To enable audio output in live mode |
| 13 | Auto Dwell Button | To enter auto dwell mode |
| 14 | BACKUP Button | To enter backup mode |
| 15 | PTZ Control Button | To control PTZ camera:<br>Move camera/ZOOM/FOCUS/IRIS/SPEED control |

Tab 2.7 Definition of Remote Controller

## 2.5 Control with Mouse

### 2.5.1 Connect Mouse

It supports PS/2 or USB mouse through the ports on the rear panel, please refer to Fig 2.12 Remote Controller.

***Notice**: If mouse is not detected or doesn't work, check as below*

*1. Unplug/re-plug several times*

*2. Power off/on several times*

*3. Change a mouse to try*

### 2.5.2 Use Mouse

The structure of the main menu is shown in Fig 2.12 Remote Controller

**In live:**

Click left button on one camera to be full screen display. Click again to return to the previous screen display.

Click right button to show the control bar at the bottom of the screen as Fig 2.12 Remote Controller. Here are all control and setup. Click right mouse again to hide the control bar.

**In setup:**

Click left button to enter. Click right button to cancel setup, or return to the previous.

If want to input the value, move cursor to the blank and click. An input window will appear as Fig. 13. It supports digitals, letters and symbols input.

Fig 2.13 Digital Numbers and Letters Input Window

Users can change some value by the wheel, such as time. Move cursor onto the value, and roll the wheel when the value blinks.

It supports mouse drag. I.e. Set motion detection area: click customized, hold left button and drag to set motion detection area. Set schedule: hold left button and drag to set schedule time

**In playback:**

Click left button to choose the options. Click right button to return to searching mode.

**In backup:**

Click left button to choose the options. Click right button to return to live.

**In PTZ control:**

Click left button to choose the buttons to control the PTZ. Click right button to return to searching mode.

***Notice***: *Mouse is the default tool in all the operation below unless Exceptional indication.*

# CHAPTER 3 Basic Function Instructions

## 3.1 Power On/Off

***Notice**: Before you power on the unit, please make sure all the connection is good.*

### 3.1.1 Start

There are two ways to start this DVR. One way is to Connect with the source power, switch on the power button near the power port in the rear panel, and the system will be loaded. The other is to start by the *Power* button on the front panel, ( this method will be used only if the system is shot shut-down), please press *Power* button 3～5 seconds, the system will start normally, and the screen will display as Fig 3.1 System Loading.

Fig 3.1 System Loading

Following that, it will enter in live with eight screens shown below:

Fig 3.2 Preview

| Symbol | Meaning | Symbol | Meaning |
|---|---|---|---|
| | Enable audio in live | | Disable audio in live |
| (green) | Manual record | (blue) | Timer record |
| (yellow) | Motion detection record | (red) | Alarm record |
| HDD | Current working HDD | Space | Size of current HDD |
| Free | Free space of current | | USB devices connected |
| | HDD full | | |

### 3.1.2 Close

When you close the system, please strictly obey normal close operation. Users can close the unit by remote controller, front panel, and mouse.

**By remote controller:**

**STEP1** Press POWER button, the screen below will appear.

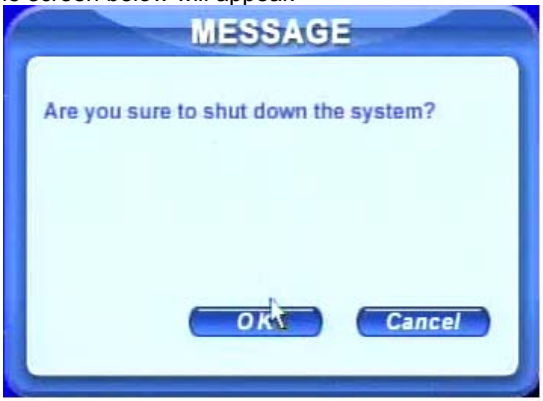



Fig 3.3 Shut down

**STEP2** Choose OK to enter. The unit will power off automatically after a while
**STEP3** Disconnect the power

### By front panel or mouse:

**STEP1** Press ENTER button or click right mouse to show menu bar, referring to Fig 4.1 Control Bar.
**STEP2** Click Shut down button, referring to Fig 3.3 Shut down
**STEP3** Click OK to enter on the pop-up window. The unit will power off automatically after a while
**STEP4** Disconnect the power

## 3.2 Login &User Management

Users can logout and login the DVR system. Users cannot do any other operations except changing the multi-screen display once logout. It is in logout once it starts or restarts.

### Login:

If it is in logout, please press right mouse to show the control bar. Press Login, Search, or System etc. A login window will appear, asking for ID and password as Fig 3.4 Login.

Fig 3.4 Login

***Notice**: The default is admin and 123456.*

## Change password:

Every one can change his own password.

**STEP1** In login state, click Log in/out on the control bar. A window will appear with two options. One is for logout, another for password modification. Click Password, the window will appear as Fig 3.5 Change Password.

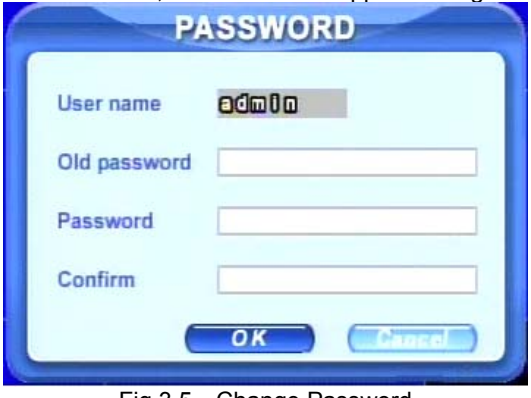



Fig 3.5 Change Password

**STEP2** Input the old password. Then input new password 2 times.
**STEP3** Press OK button to change.

## Add &Delete users:

This unit has a default administrator and two user groups, advance and normal user. It supports 1 administrator and 15 users totally. Administrator can add or delete other users, and change their group level. Administrator cannot be added or deleted.

Press right mouse to show the control bar. Enter Menu---->System.

**STEP1** Enter USER configuration. Click Add button, please see Fig 3.6 Add User.

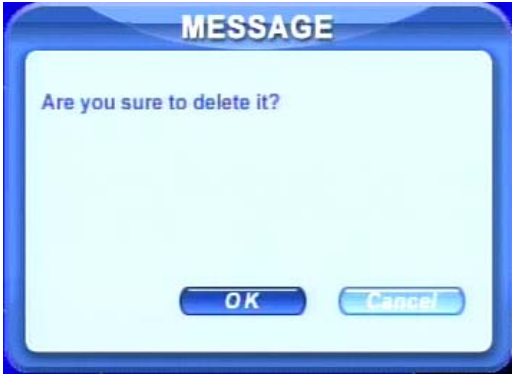
Fig 3.6 Add User

**STEP2** Input user name and password. Choose the user group.

**STEP3** Click OK button to add a new user

**STEP4** Choose a user, a symbol will display at the end of the user information. Click Authority button to change the group level.

**STEP5** Press Delete button to delete the user. A security window will appear as below.




**STEP6** Click OK button to delete the user

- ***Notice****: illumination of users' rights*

  *Administrator: have all rights to do every thing.*

  *Advance: do others except entering USER to manage users*

  *Normal: do others except entering SYSTEM to change the settings.*

  *The user name and password are the combination of digitals, letters, or symbols. The number of characters must be one or above.*

## 3.3 Recording

### 3.3.1 Record Setup

Users need install and format a HDD, and set all the recording parameters before recording. It has four recording modes. Users can enable them simultaneously. They have different priorities as below.

Motion detection recording > Sensor recording > Manual recording > Timer recording

Press right mouse to show the control bar, referring to Fig 4.1 Control Bar. Enter Menu---->System.

**STEP1** Enter RECORD configuration, referring to Fig 3.7 Record Setup. Select cameras.

Fig 3.7 Record Setup

**STEP2** Set Video quality, Frame rate, and Resolution.
**STEP3** Have Audio checked if you input audio and want to record. Check Time stamp to record
**STEP4** Enable recording function for cameras in Record option.

***Notice***: *If having camera unchecked here, it will not record in any recording mode.*

**STEP5** Set Alarm record hold time. It is for post alarm recording.
**STEP6** Enable Recycle. It covers old video once HDD full. If you have it unchecked, it will stop recording auto once HDD full
**STEP7** Click OK to finish

***Notice***: *The more space is used per hour, the higher the value of Video quality, Frame rate, and Resolution.*

*This Unit supports pre-alarm recording. However, no option to set the pre-alarm recording time, the default is 10 seconds*

### 3.3.2 Manual Recording

Just press REC button on the front panel after quitting system setup. Press Stop button to stop recording.

Alternatively, press REC button on remote controller, click again to stop.

Or click REC button on the control bar with mouse, click again to stop.

### 3.3.3 Timer Recording

Users can set different schedule time for every day in one week. If you want a special schedule for one day, you can use Holiday function.

**STEP1** Enter SCHEDULE configuration. Select Channel and Schedule; please see Fig 3.8 Schedule Setup.

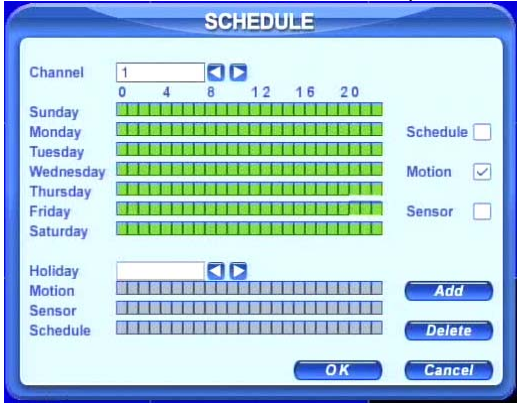



Fig 3.8 Schedule Setup

**STEP2** The volume means the 7 days of one week. The row means 24 hours. Set the schedule time.
Green means checked. Transparence means unchecked.

**STEP3** Press Add button to select the date if you want a special schedule for a certain day. A window will appear as Fig 3.9 Calendar.

Fig 3.9 Calendar

**STEP4** Select the date and set the schedule time. If want to delete this special schedule, click Delete button

**STEP5** Click OK button to finish

Then the DVR will auto record once it goes to the time you set.

### 3.3.4 Motion Detection Recording

This unit supports recording channels and PTZ linking. This means it will record any cameras, or trigger any speed dome to preset or do auto cruise once motion detected.

**STEP1** Enter MOTION configuration, please see Select cameras

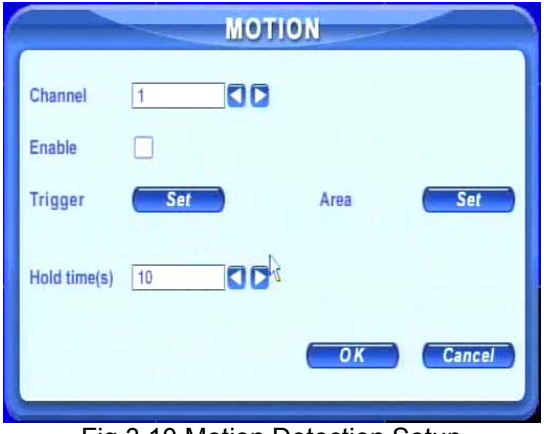



Fig 3.10 Motion Detection Setup

**STEP2** Enable Detection first. Enter Area to set Sensitivity and detection Area. In detection area, red means unchecked, transparence means available, see Fig 3.10 Motion Detection Area Setup. Due to the sensitivity is influenced by the color and time (day or night), users can adjust its value according to the practical condition.

Fig 3.10 Motion Detection Area Setup

**STEP3** Enter Trigger configuration, see Fig 3.11 Alarm Out Setup

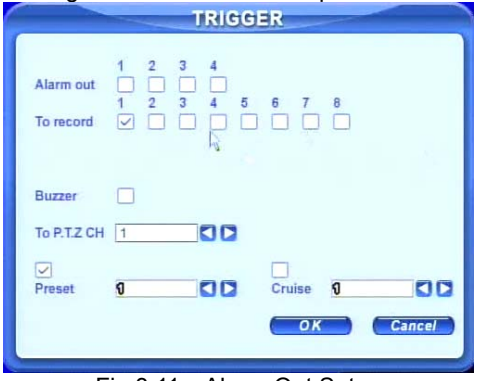



Fig 3.11 Alarm Out Setup

**STEP4** Select alarm out and recording channels. It can trigger any alarm out and cameras to record once motion detected.

**STEP5** Enable or disable Buzzer on board. Select speed dome and enable preset or auto cruise. Press OK to save

**STEP6** Set Hold time. It is the interval time between the two adjacent efficient motions. If a second motion is detected in Hold time again, it is recognized as a continuous motion. If a second motion is detected after hold time, this motion and the previous are recognized as two different motion events.

**STEP7** Click OK to save settings

**STEP8** Enter SCHEDULE configuration. Select Motion and relative cameras to set, referring to 3.3.3 Timer Recording.

***Notice**: About preset and auto cruise, users can only select one at same time.*

*The actual post- alarm record time equals Hold time in RECORD and Hold time in MOTION*

### 3.3.5 Alarm Recording

This unit supports recording channels and PTZ linking after alarm.

**STEP1** Enter ALARM configuration, see Fig 3.12 Sensor Alarm Setup. Select cameras

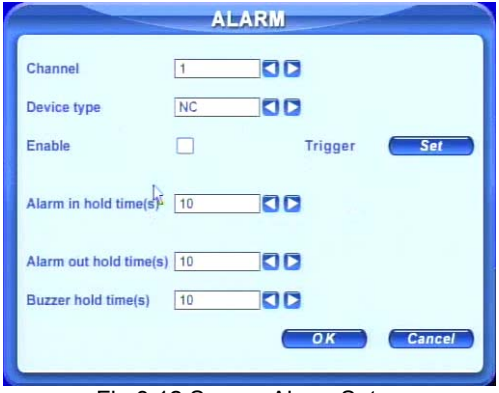



Fig 3.12 Sensor Alarm Setup

**STEP2** Enable Detection first. Set Device type.
**STEP3** Enter Trigger configuration. Set alarm out, recording cameras and linked PTZ, referring to 3.3.4 Motion Detection Recording STEP4-5
**STEP4** Set Alarm in hold time. It is the interval time between the two adjacent efficient alarms. This is similar with Hold time in MOTION configuration.
**STEP5** Set Alarm out hold time and Buzzer hold time. Click OK to save settings
**STEP6** Enter SCHEDULE configuration. Select Sensor and relative cameras to set, referring to 3.3.3 Timer Recording.

***Notice***: *About preset and auto cruise, users can only select one at same time.*

*The actual post alarm record time equals Hold time in RECORD and Hold time in MOTION*

## 3.4 Playback

This unit supports time search and event search. It displays full or 4 screens in playback. Click right mouse to show the control bar, referring to Fig 4.1 Control Bar. Click Search, the window below will appear on screen.

Fig 3.13 Search Menu

## Time search:

**STEP1** Enter Search configuration, select Time search. A window will appear as Fig 3.14 Calendar Search. If it recorded in a day, the date will show highlight.

Fig 3.14 Calendar Search

**STEP2** Choose a day to time search interface, as Fig 3.15 Time Search.

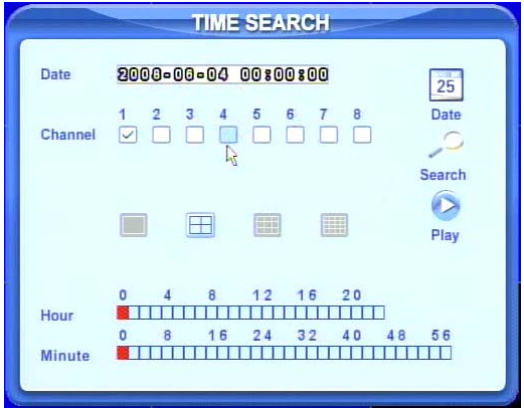



Fig 3.15 Time Search

**STEP3** This unit has full and 4 screen playback. Select the screen display mode and the channels.

**STEP4** If want to change the date, press Date button. Set hour and minutes of start time. If it recorded at that time, the boxes will show green.

**STEP5** Click Play button. It will play from the time point you set.

**STEP6** Click the relative buttons on the screen to do fast forward/backward, pause, stop, and change the screen mode and re-search, See Fig 3.16 Playback.

Fig 3.16 Playback

**Event search:**

**STEP1** Enter Search---->Event search. The calendar window will appear as that of time search

**STEP2** Choose a day in event search interface, as Fig 3.17 Event Search

Fig 3.17 Event Search

**STEP3** Choose camera and event type, motion or sensor.
**STEP4** Double click one video file to play.

## 3.5 Backup &View

This unit supports backup by built-in SATA DVD Writer with USB Flash, through the USB port on the front panel. Users can also make backup by IE browser via internet, referring to 6.3.2 Remote Backup.

Take USB flash backup as an example. Press right mouse to show the control bar, referring to Fig 4.1 Control Bar.

### At DVR location:

**STEP1** Enter Backup interface, see Fig 3.18 Backup Setup

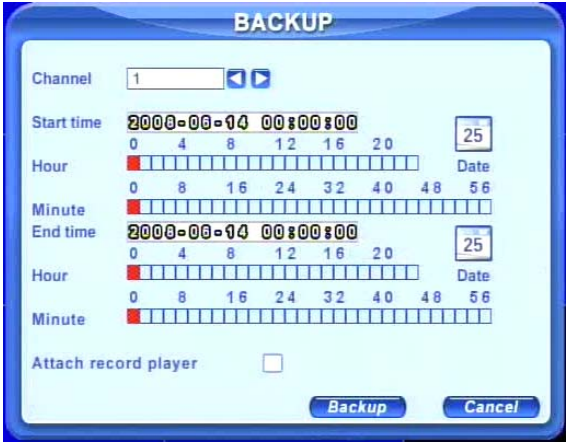



Fig 3.18 Backup Setup

**STEP2** Choose the channel, and set the start and end time. Click Date button to change the date.

**STEP3** Enable “Attach record player,” it will save a special player simultaneously when backup. With this player, users can make time search and event search when checking the backup.

**STEP4** Click OK button. A window will appear as Fig 3.19 Backup Information.

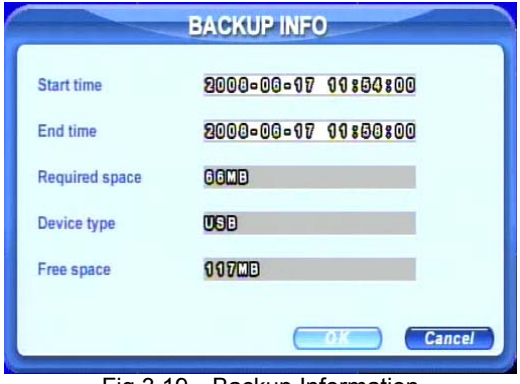
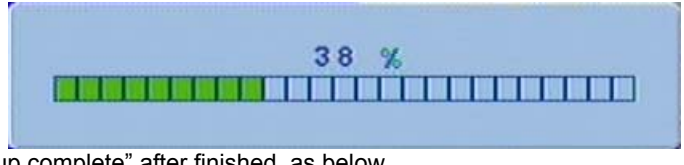



Fig 3.19 Backup Information

***Notice**: If users install built-in DVD writer and USB device, it will show USB device in previous. It will show CD-ROM even though users install DVD writer*

**STEP5** Press OK button. It will begin to write video from HDD inside DVR to backup device, and show the process as below.




**STEP6** It will show “Backup complete” after finished, as below.

## Check &View:

The steps to view the backup with the special software are as following:

**STEP1** Remove the backup device to a computer. Enter the backup folder and open the viewer.

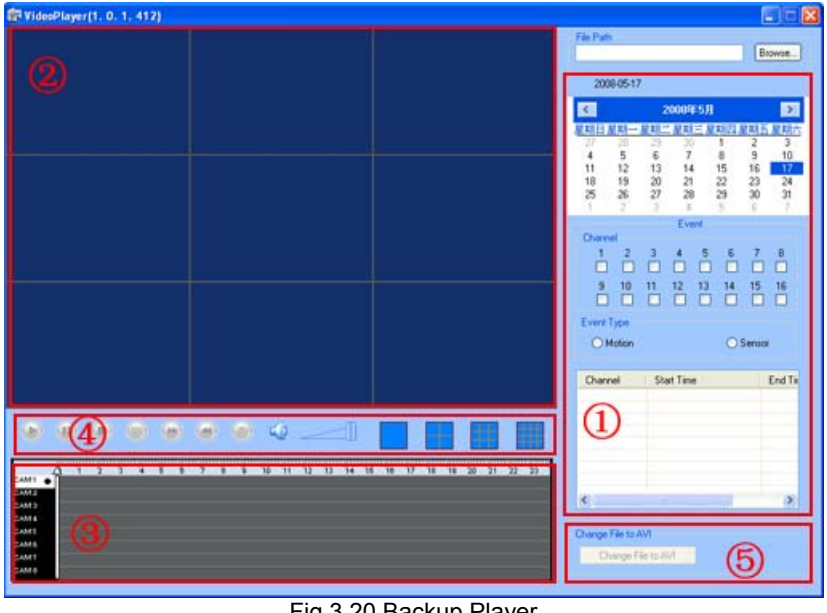



Fig 3.20 Backup Player

① Search area　　② video display area

③ Video data area　　④ Control area

⑤ AVI converting

**STEP2**　Click Browse to choose the folder which contains the video backup, as Fig 3.21 Choose Backup Folder.

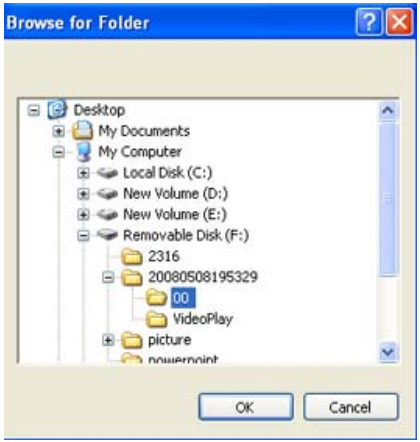



Fig 3.21 Choose Backup Folder

**STEP3** Set the date and channels. It will show the recorded video in area ③ with green light at the bottom as shown in Fig 3.22 Backup Data Search.

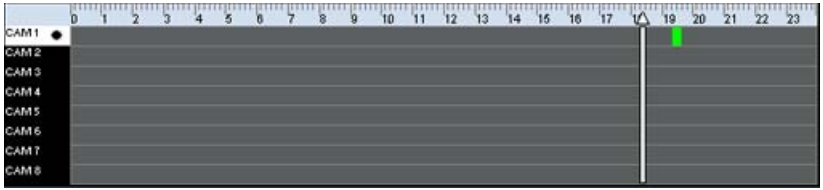



Fig 3.22 Backup Data Search

If using event search, it will list event files at the bottom of area①

**STEP4** Drag the slide bar to the start time point, click play button to view. It supports multi screen display. Users can do fast forward/backward, record, play audio etc, as below.

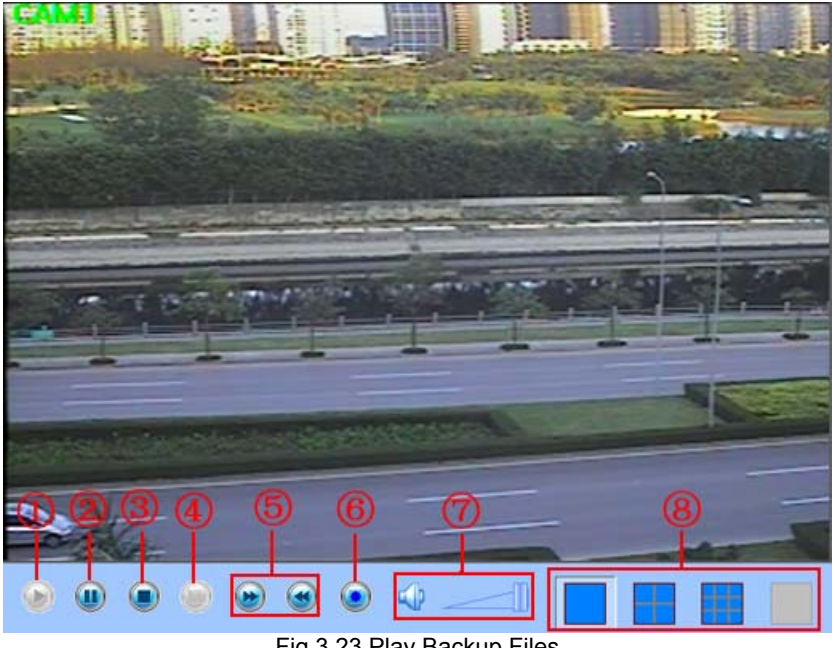



Fig 3.23 Play Backup Files

| Index | Definition | Index | Definition | Index | Definition | Index | Definition |
|---|---|---|---|---|---|---|---|
| ① | Play | ② | Pause | ③ | Stop | ④ | Next frame |
| ⑤ | Forward/Rewind | ⑥ | Snap | ⑦ | Volume | ⑧ | Screen mode |

Tab 3.1 Backup View Control

**STEP5** It supports AVI converter. Click “Change File to AVI”. The converter will appear.

**STEP6** Click Browse to choose the folder which contains the video backup first. Set the start/end time, select the channels, and then Click search button. It will show backup files in the file display area as Fig 3.24 AVI Converter

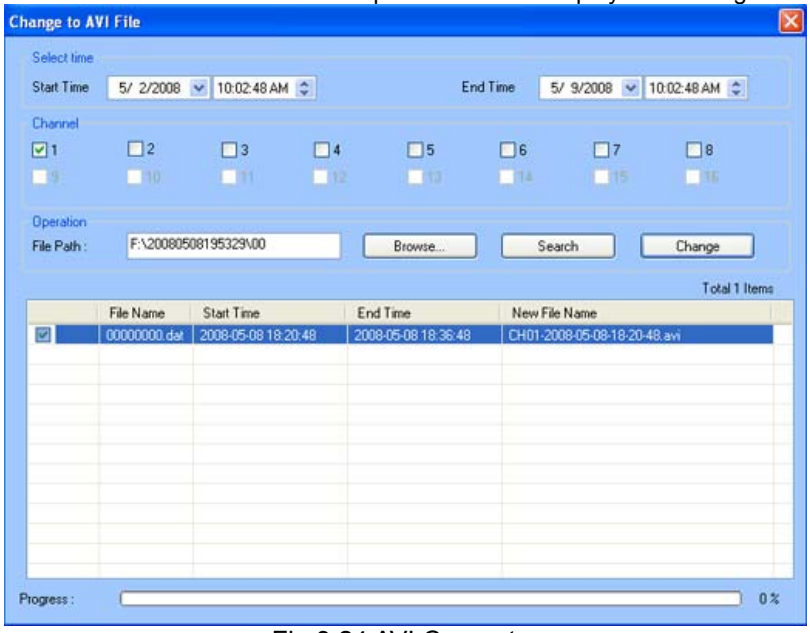



Fig 3.24 AVI Converter

**STEP7** Select the files. Click Change button, it will start converting the files and show the process at the bottom.
**STEP8** It is finished when the process show 100%. Users can play the AVI files with the third player directly.

About network backup, please refer to 6.3.2 Remote Backup.

## 3.6 PTZ Control

Please connect speed domes to the DVR via RS485 first, referring to 2.3.1 Rear Panel Interface. In addition, make sure the speed dome has the protocols this DVR supports and set the parameters according to its manual.

**STEP1** Press right mouse to show the control bar. Enter Menu---->System--->P.T.Z, see Fig 3.25.

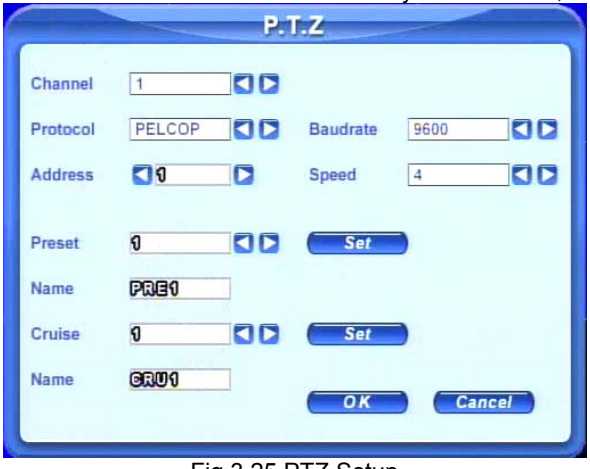



Fig 3.25 PTZ Setup

**STEP2** Set protocol, baud rate, address according to the parameters of the speed dome.

**STEP3** Click Set button at right of Preset. Here users can set presets as Fig 3.26 Set Presets. Adjust the speed dome. Select a preset and click Save to a preset. Users can set 128 presets totally.

Fig 3.26 Set Presets

**STEP4** Click Set button at right of Cruise. Here users can set cruise track, as Fig 3.27 Set Cruise. Choose the preset, set stay time of every preset. Click + button to add the preset to the left preset for cruise track.

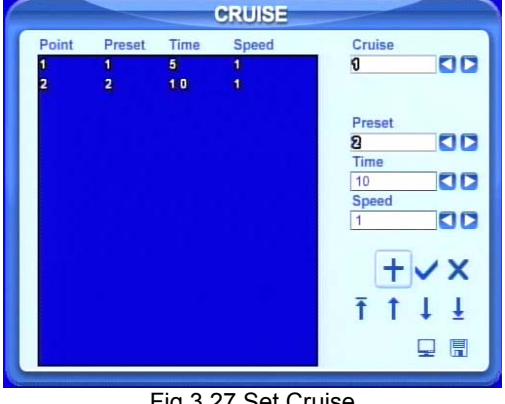



Fig 3.27 Set Cruise

**STEP5** Select a preset in left preset list, click – button to delete the preset. Click ⇧, ⇩, ⇧, ⇩ to adjust the sequence of the presets in the auto cruise. Click *Save* to save and return to the previous interface.

**STEP6** Click button to save and exit. Press right mouse to show the control bar. Click PTZ to enter PTZ control, as Fig 3.28 PTZ Control.

Fig 3.28 PTZ Control

**STEP7** Select the speed dome. Click the direction buttons to move the camera. Click the relative + and – buttons to adjust zoom, focus, IRIS and speed. Click ☐ button to stop the change.

**STEP8** Select the preset; the speed dome will go to the point directly. Select Cruise, it will do auto cruise.

# CHAPTER 4 Menu Setup Guide

## 4.1 Menu Navigation

| Menu | Option | Menu | Option |
|---|---|---|---|
| Basic | Device name &ID<br>Video format<br>Language<br>Date &time setup<br>Live audio switch<br>Authorization check switch | Live | Camera name<br>Camera mask<br>Name &time switch<br>SPOT out switch<br>Color adjustment |
| Record | Video quality<br>Frame rate<br>Record switch<br>Resolution<br>Recycle switch<br>Post alarm record time | Schedule | Recording schedule<br>Motion schedule<br>Sensor schedule |
| Alarm | Alarm Switch<br>Sensor type<br>Alarm out &out time setup | Motion | Motion switch<br>Sensitivity &detection area setup<br>Alarm out &out time setup |

| | Recorded cameras and PTZ linking | | Recorded cameras and PTZ linking |
|---|---|---|---|
| Network | HTTP &server ports<br>IP address setup<br>PPPoE<br>Network video setup<br>DDNS | PTZ | Protocol, baud rate and address<br>Speed setup<br>Presets setup<br>Cruise setup |
| User | Add users<br>Delete users<br>Change authorization | Tools | Disk manager<br>Update<br>Load default |

Tab 4.1 Menu Navigation

## 4.2 Main Menu Setup

Click right mouse, or press ENTER button on the front panel, the control bar will show on the bottom of the screen as Fig 4.1 Control Bar.

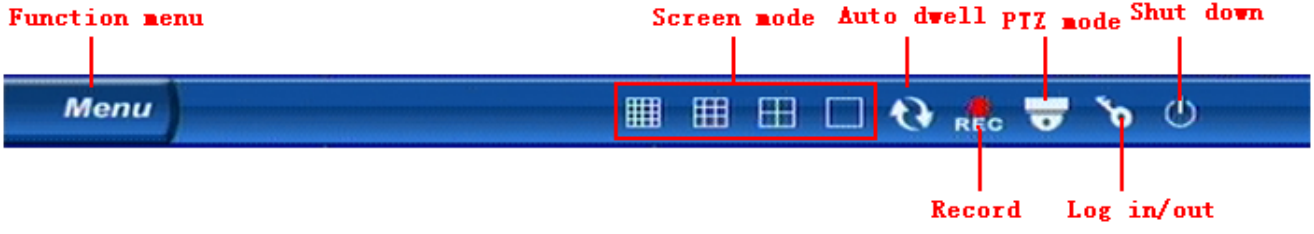



Fig 4.1 Control Bar

Move the cursor to Menu and click, the up list menu will show as Fig 4.2 Up-listed Menu

Fig 4.2 Up-listed Menu

Select System. A graphic user interface will show as Fig 4.3 System Setup.

Fig 4.3 System Setup

Press MENU button on the front panel or remote controller. The interface above will also appear.

***Notice**: Only administrator and advance user can enter system setup and do setup.*
*It need reboot after some parameters changed, like video format.*

### 4.2.1 Basic Configuration

Click BASIC to enter basic configuration as Fig. 4.4.

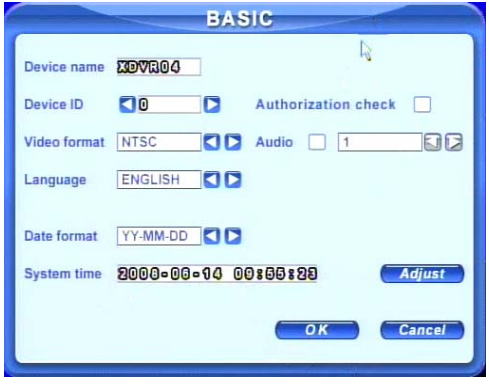



Fig 4.4 Basic Configuration

Here users can set video system, menu language, audio, time and authorization check. The following are the definitions of every option.

**Device name:** The name of the unit. It may display on the client end or CMS, which help users to recognize the unit remotely.

**Device ID:** It is used to multi devices at the same place. Users can manage them by remote controller.

**Video format:** It has PAL and NTSC. Users make the choice according to that of that of cameras.

**Language:** set the menu language. But customer terminal can not change it.

**Authorization check:** It needs user name and password when user want system setup, playback, backup etc, if enable

this.

**Audio:** enable audio in live. Users can choose a random channel.

**Date format:** three formats, YY-MM-DD, DD-MM-YY, MM-DD-YY.

**System time:** set the time. If the unit is recording, users cannot change the time. When recording, click Adjust button, a security window will appear.

### 4.2.2 Live Configuration

Click LIVE to enter live configuration as Fig 4.5 Live Configuration

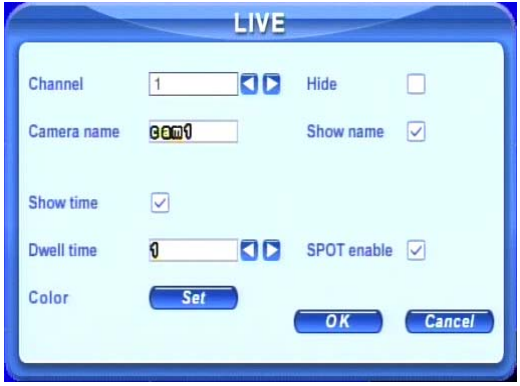



Fig 4.5 Live Configuration

Here users can set name/time display, picture color and hide cameras. The following are the definitions of every option.

**Camera name:** set camera name. it is the combination of digitals, letters and symbols.

**Show name:** display camera name in live.

**Show time:** display time in live.

**Dwell time:** it is available for both Sequence and SPOT simultaneously. This unit has 2-channel video output, referring to 2.3.1 Rear Panel Interface. One is main output, and the other is spot output. Users can set the display time of cameras in

auto dwell and spot out.

**SPOT enable:** enable spot output.

**Color**: Click Set button, a window will appear as Fig 4.6 Color Adjustment.

Fig 4.6 Color Adjustment

Adjust Brightness, Hue, Saturation, and Contrast in live here.

**Default:** set the color to the default value.

### 4.2.3 Record Configuration

Click RECORD to enter record configuration as Fig 4.7 Record Configuration.

Fig 4.7 Record Configuration

Here users can set record quality, frame rate, resolution, and recycle. The following are the definitions of every option.

**Video quality:** it has five options from lowest to highest. The higher the value is, the clearer the recorded picture is.

**Frame rate:** set recorded frame rate.

**Audio:** enable audio to record.

**Time stamp:** record the current time to video file if checked.

**Record:** Switch on/off recording function for every camera. It records the camera only if having the camera checked here. Then you can use manual, timer, motion detection, and sensor alarm recording.

**Resolution:** it supports CIF and D1. Now only CIF works.

**Alarm record hold time(S):** set the post recording time after alarm finishes. It has 4 options, 30, 60, 120, and 180.

**Recycle:** enable recycle. It unchecked here, it will stop recording when HDD full.

***Notice**: Video quality, frame rate and resolution are tightly related with the used storage. The higher the value is, the higher the bit rate and the used storage are.*

### 4.2.4 Schedule Configuration

Click SCHEDULE to enter schedule configuration as Fig 4.8 Schedule Configuration.

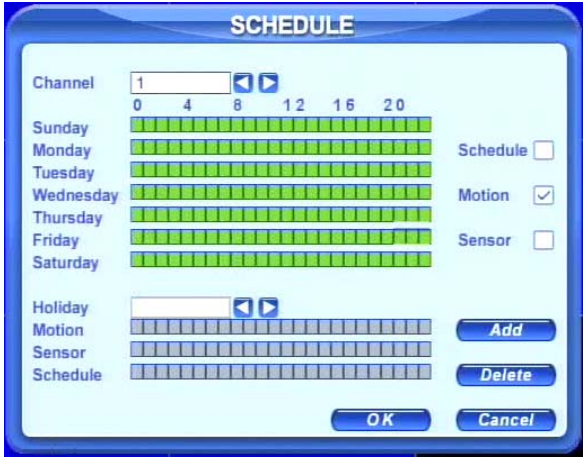



Fig 4.8 Schedule Configuration

Here users can set schedule for timer, motion detection, and sensor alarm respectively. The following are the definitions of every option

**Always, Motion and Sensor:** refer to record schedule, motion schedule and alarm schedule respectively.

The volume means the 7 days of one week from Monday to Sunday. The row refers to 24 hours. Click the boxes or hold mouse to drag to set the schedule time. Green means checked. Transparence means unchecked.

**Add:** users can set schedule for a certain day by date. Click Add to add date as Fig 3.9 Calendar.

**Delete:** delete holiday schedule.

### 4.2.5 Alarm Configuration

Click ALARM to enter alarm configuration as Fig 4.9 Alarm Configuration.

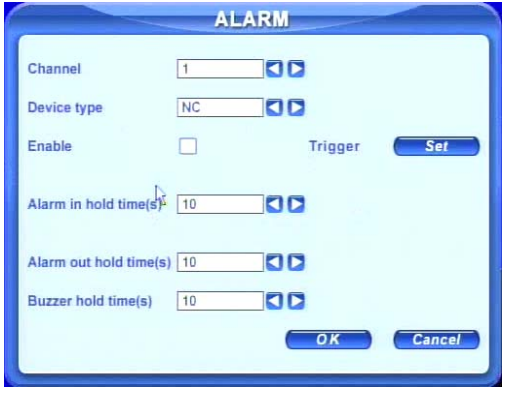



Fig 4.9 Alarm Configuration

Here users can set sensor type, alarm trigger and alarm time. The following are the definitions of every option.

**Device type:** NC and NO (Normal Close and Normal Open). Set the value according to the alarm signal level of the sensors.

**Enable**: enable sensor alarm.

**Trigger:** set alarm output, recording channel and speed dome linking. Click Set button, a window will appear as Fig 4.10 Alarm Out Configuration.

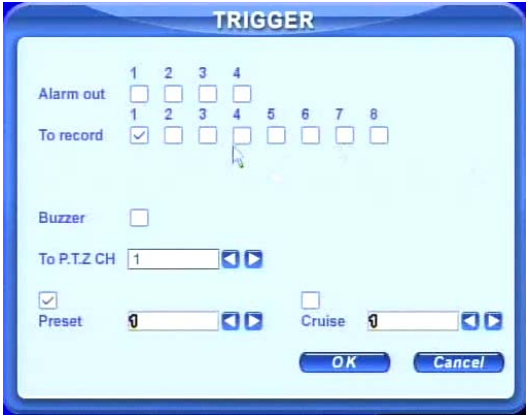



Fig 4.10 Alarm Out Configuration

**Alarm out:** set relay alarm out channel. You can select any alarm channels.

**To record:** set recording channels. You can select any record channels. It will record the cameras you choose here when alarm triggered.

**Buzzer:** enable buzzer on board for alarm.

**To P.T.Z CH:** set linked preset and cruise for alarm. You can select any channel and multi channels as linked channels.

**Alarm in holding time(S):** the interval time between the two adjacent efficient sensor alarms. If a second alarm is detected in Hold time again, it is recognized as a continuous alarm. If a second alarm is detected after hold time, this alarm and the previous are recognized as two different alarm events.

**Alarm out holding time(S):** set relay alarm out time after alarm triggered.

**Buzzer holding time(S):** set on board buzzer time after alarm triggered.

### 4.2.6 Motion Configuration

Click MOTION to enter motion configuration as Fig 4.11 Motion Configuration.

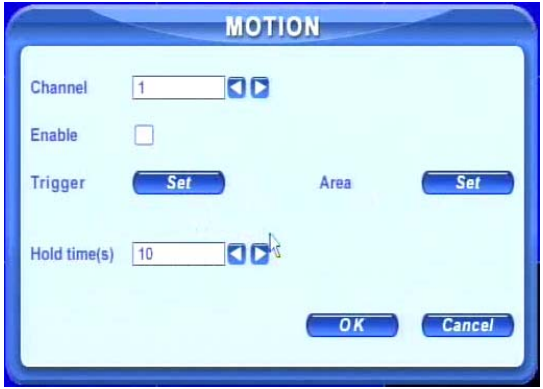



Fig 4.11 Motion Configuration

Here users can set motion sensitivity, detection area, and alarm out. The following are the definitions of every option.

**Enable:** enable motion detection.

**Trigger:** setup similar with that of sensor alarm. Nevertheless, linked speed domes must be different front current channel. I.e. now users enable motion detection of camera 1, the linked speed domes must be camera 2-8.

**Area:** set sensitivity and motion detection area. It supports multi detection area as Fig 4.12 Detection Area Configuration. Click the blocks or drag mouse to enable or disable. Red means unchecked, transparence means available. Click *Save* to save and exit.

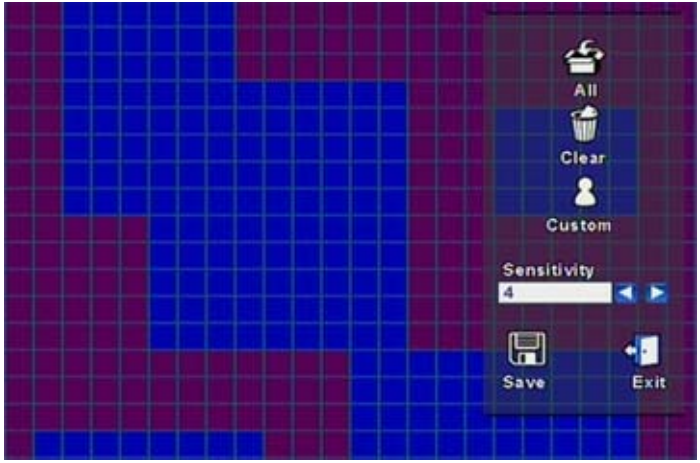



Fig 4.12 Detection Area Configuration

**Sensitivity:** set detection sensitivity from 1-8. The default is 4.

**Exit:** quit without saving

**Holding time(S):** the interval time between the two adjacent efficient motions, similar with that of sensor alarm.

### 4.2.7 Network Configuration

Click NETWORK to enter network configuration as Fig 4.13 Network Configuration.

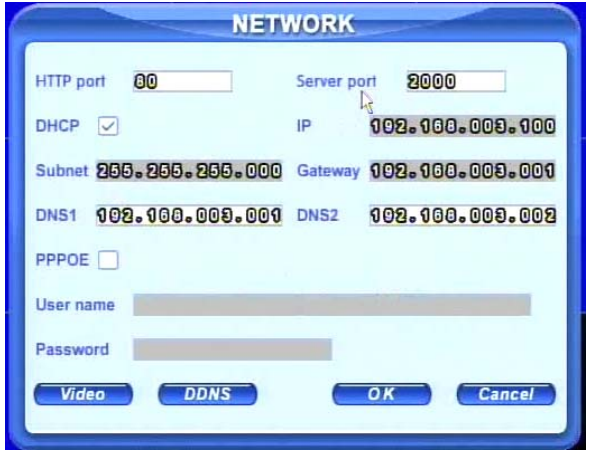



Fig 4.13 Network Configuration

This unit supports DHCP, PPPoE, and DDNS. Users enable network function, and configure IP address, DDNS, transmission video parameters here. The following are the definitions of every option.

**HTTP port:** the default is 80. If users change the value, they need add the port number when typing IP address in IE address blank. I.e. set HTTP port to 82, IP address to 192.168.0.25. Users need input http://192.168.0.25:82 in IE browser.

**Server port:** communication port

**DHCP:** enable DHCP. It wants this feature work, need enable DHCP in the router or virtual server. The unit will get IP address automatically, not input IP, Subnet, and Gateway manually.

**IP, Subnet, Gateway, DNS1 and 2:** IP address information. If users do not enable DHCP, it is necessary to input the value manually here.

**PPPoE:** enable PPPoE. If users connect the DVR to internet directly by ADSL, not through a router or a virtual server, please enable it.

**User name, Password:** account information of PPPoE. Input what you get from your ISP.

Click DDNS, a window will appear as Fig 4.14 DDNS Configuration. Now it supports DNS2P and 88IP. Users need register at www.dns2p.com or www.88IP.net. Then input register ID and password here. Click OK button. The unit will connect DNS2P or 88IP.

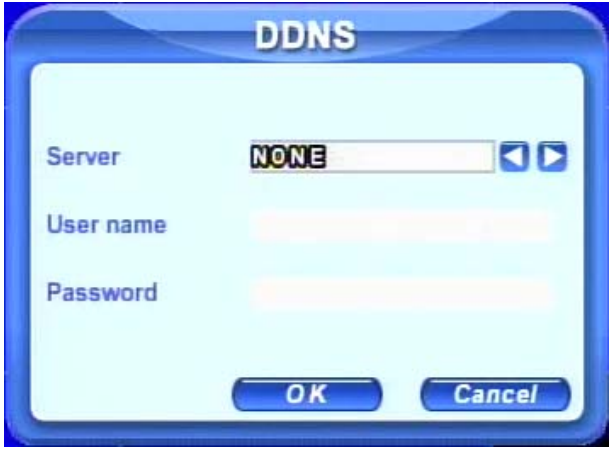



Fig 4.14 DDNS Configuration

**Server:** select DDNS server.

**User name and Password:** input register information.

This unit supports dual stream. Users can set picture quality, frame rate, and resolution separately for network, according to the network bandwidth. Click Video to enter the configuration interface as Fig 4.15 Network Video Configuration.

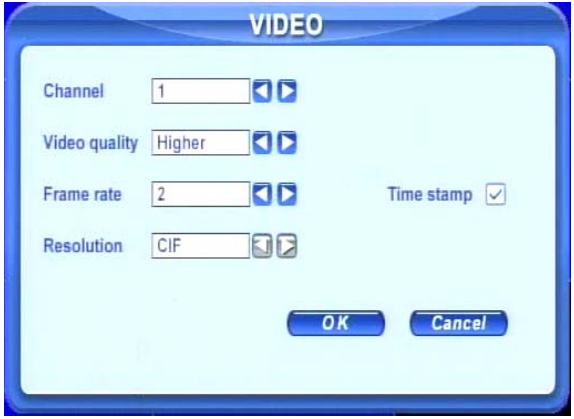



Fig 4.15 Network Video Configuration

**Video quality:** network picture quality.

**Frame rate:** it has 3 options, 1, 2 and 3 fps.

**Resolution:** now it only has CIF.

**Time stamp:** Time displayed in the image.

### 4.2.8 P.T.Z Configuration

Click P.T.Z to enter PTZ configuration as Fig 4.16 PTZ Configuration.

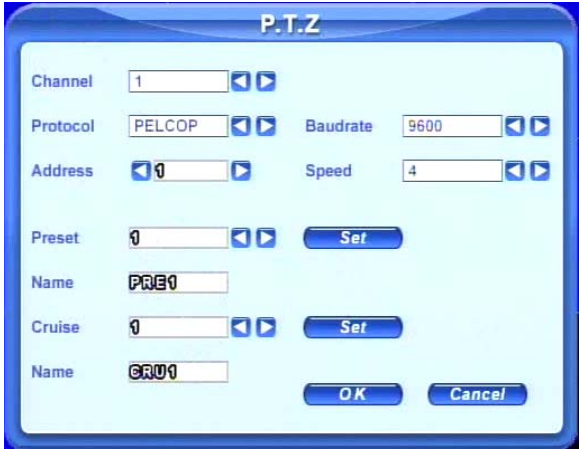



Fig 4.16 PTZ Configuration

Here users can set protocol, baud rate, address, presets, and auto cruise track here. The following are the definitions of every option.

**Protocol, Baud rate, Address:** please set the value according to the settings of the speed dome.

**Speed:** set the speed of speed domes.

**Preset, Name:** select a preset and rename it. Click *Set*, a window will appear as Fig. 4.17. Select a preset to adjust the speed dome. Click *Save* button to save it and exit.

Fig 4.17 Set Presets

**Cruise, Name:** select a cruise track and rename it. Click Set in Cruise row. A window will appear as 3.6 PTZ Control.

***Notice**: It has 128 presets and 32 cruise tracks totally*

### 4.2.9 User Configuration

Click USER to enter user management interface as Fig 4.18 User Configuration.

Fig 4.18 User Configuration

Administrator can add, delete users, and change their authorization. Please refer to 3.2 Login &User Management.

***Notice**: It supports one administrator and max 15 users.*

### 4.2.10 Tools Configuration

Click TOOLS to enter tools configuration as Fig 4.19 Tools Manager.

Fig 4.19 Tools Manager

**Disk manager:** please refer to 5.1 Format Hard Disk.

**Update:** please refer to 5.2 Update Firmware.

**Load default:** please refer to 5.3 Load Default Setup.

# CHAPTER 5 Manage DVR

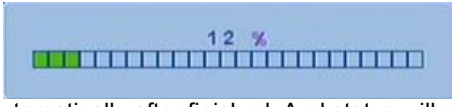
## 5.1 Format Hard Disk

If wanting to record, it is necessary to format the hard disk at first. If not being formatted, it will show the position of the disk, free space, and total space show 0M at the bottom of screen.

**STEP1** Enter TOOLS configuration, referring to 4.2.10 Tools Configuration. Press Disk manager, a window will pop up as Fig 5.1 Disk Manager.

Fig 5.1 Disk Manager

**STEP2** If a disk has never been formatted, Status will show “new”. Select hard disks, press Format button to begin.
**STEP3** A security window will remind user that this will delete all data on HDD. Press OK to continue. A process will display on the screen as below.




**STEP4** It will return to the previous automatically after finished. And status will show “normal” after formatted.

***Notice**: All recorded files will be lost after formatted.*

## 5.2 Update Firmware

Now it only supports USB update. Get the firmware from your dealer, and Make sure the firmware is corresponding with the DVR. Users can check USB information in disk manager, please refer to Fig 5.1 Disk Manager.

**STEP1** Plug an USB flash to the computer. Copy the firmware to the flash. The extension of firmware is tar.
**STEP2** Remove the USB flash to the DVR. Enter TOOLS configuration, referring to 4.2.10 Tools Configuration.
**STEP3** Click Update. A window will appear, which reminds users that it will automatically load default settings after update.
**STEP4** Press OK to begin. The process bar will display on the screen during update.

**STEP5** After finished, the unit needs restart.

***Notice**: If a “no device or no file” error appears, it is possible that the USB device is incompatible. Please change an USB flash.*
*Please be patient to wait. It will take 2-3 minutes to update. Moreover,, the updating file should be only one at one time.*

## 5.3 Load Default Setup

The DVR has different setup blocks, like Basic, Record, Schedule, Motion etc. Users can choose any block to do default, as Fig 5.2 Reset Blocks.

Fig 5.2 Reset Blocks

**STEP1** Enter TOOLS configuration, referring to 4.2.10 Tools Configuration.
**STEP2** Click Load default. Select setup blocks; please refer to Fig 5.2 Reset Blocks.
**STEP3** Press OK to do default. It will return to TOOLS interface after finished.

## 5.4 Check System Information

Users can check system information like firmware version, IP address, etc.

**STEP1** Press right mouse to show the control bar. Click Menu, referring to Fig 4.2 Up-listed Menu.
**STEP2** Click Info, the window below will appear.

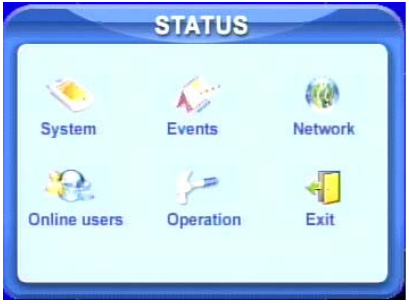



Fig 5.3 Status Interface

**STEP3** Click System, the window below will display. Check firmware version, recording parameters here.

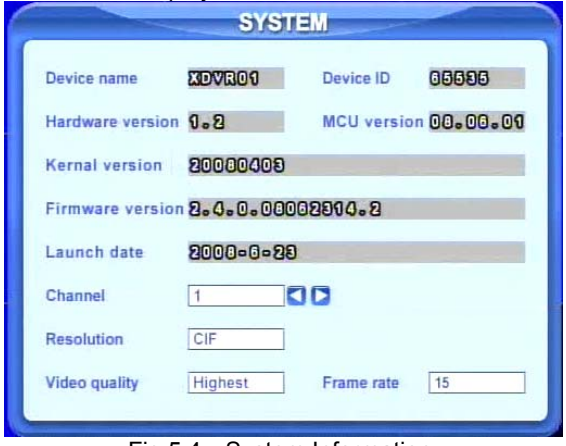



Fig 5.4 System Information.

**STEP4** Return to the previous interface, and click Network. The window below will display. Check IP address, DVR Mac

address, network video quality.

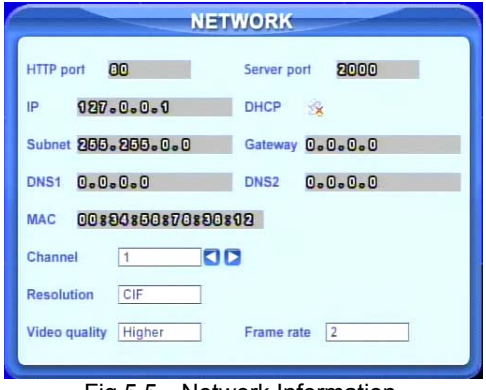



Fig 5.5 Network Information.

## 5.5 Check System Log

This unit supports system log. It records its working state and operation automatically. Moreover, it divides the record into two groups: events and operation. The form below is the details of the two groups.

| Group | Details |
|---|---|
| Events | Motion, Video Loss, Sensor |
| Operation | Delete File, Lock File, Search, Login, Enable check, Boot, Shutdown, Reset, Start Record, Stop Record, Setup Basic, Setup Live, Setup Record, Setup Schedule, Setup Alarm, Setup Network, Setup P.T.Z |

Tab 5.1 Details of System Log

**STEP1** Press right mouse to show the control bar. Click Menu---->Status---->Events, the window below will appear.

Fig 5.6 Events LOG

**STEP2** Click Date to change date by a calendar. Click Type to select the event type. Then click Search button. It will refresh the event list.

**STEP3** Click |⇦, ⇦, ⇨, ⇨| to do pgdn or pgup

**STEP4** Click right mouse to return to the previous interface. Click Operation to search operation Log

Fig 5.7 Operation Log

**STEP5** The operating is similar with searching events log.

***Notice**: The log files are saved to the HDD inside. If HDD not installed, it will not record any thing. The number of log files is unlimited.*

## 5.6 Check On-line Network Users

Press right mouse to show the control bar. Click Menu---->Online users. It will show the details of the current connections as below.

Fig 5.8 Details of Current Network Connections

## 5.7 Lock &Delete Files

Users can control every video file, locking and deleting them. Once users lock an important file, it cannot be covered or deleted. But the locked files can still be cleared by formatting.

**STEP1** Press right mouse to show the control bar. Click Menu, referring to Fig 4.2 Up-listed Menu.
**STEP2** Click Search----->File manager, the window below will appear.

Fig 5.9 File Manager

**STEP3** Click Date to change date by a calendar, click Search to refresh the list. The files found will be listed in the file area of file manager at bottom. It show the details of every file, like start/end time, lock state.

**STEP4** Select the files and click Lock, it will lock the selected files. At this time, a letter “L” display at the end of the file rows as Fig 5.9 File Manager.

**STEP5** Select the files which are unlocked, click Delete. A window display and remind users. Click Ok to delete them.

# CHAPTER 6 Remote Surveillance

## 6.1 Accessing DVR

If making remote view, the DVR must connect with LAN or internet. Then enable network server in the unit. Please refer to 4.2.7 Network Configuration.

This unit supports IE browser, not any client software installed. In addition, it supports XP and Vista.

### 6.1.1 On LAN

**STEP1** Input IP address, Subnet, Gateway. If using DHCP, please enable DHCP in both the DVR and router.
**STEP2** Enter Video to set network video parameters like resolution, frame rate etc.
**STEP3** Open IE browser on a computer on the same LAN. Input the IP address of the DVR in IE address blank and enter.
**STEP4** IE will download activeX automatically. Then a window pops up and asks for user name and password.
**STEP5** Input name and password correctly, and enter. It will show the picture as below.

Fig 6.1 View with IE browser

***Notice**: If HTTP port is not 80, other number instead, need add the port number after IP address. For example, set HTTP port as 82, need input IP address like 192.168.0.25:82.*

*User name and password here are the same with that used on the DVR. The default is admin and 123456.*

### 6.1.2 On WAN

There are two ways that the DVR is connected to internet.

1. Connect the DVR to internet through a router or virtual server.

**STEP1** Input IP address, Subnet, Gateway. If using DHCP, please enable DHCP in both the DVR and router.

**STEP2** Enter Video to set network video parameters like resolution, frame rate etc.
**STEP3** Forward IP address and port number in Virtual Server setup of the router or virtual server. Close firewall.

***Notice***: *Forwarding block may be different in different routers and server, please check your router manual.*

**STEP4** If users want to utilize dynamic domain name, need apply for a domain name in a DNS server supported by the DVR or router. Then add to the DVR or router.
Now this unit only supports www.dns2p.com or www.88IP.net.
About the router, please check in the router manual.
**STEP5** Open IE browser, input IP address, or dynamic domain name and enter. If HTTP port is not 80, add the port number after IP address or domain name.
**STEP6** IE will download activeX automatically. Then a window pops up and asks for user name and password.
**STEP7** Input name and password correctly, and enter to view.

***Notice***: *If you cannot download and install activeX, please r*efer to Appendix A FAQ Q7.

2. Connect the DVR to internet directly.

**STEP1** Input IP address, Subnet, Gateway gotten from your ISP. If using ADSL, please input user name and password, and click OK. The DVR will connect the server and show “connection succeeds”.
**STEP2** The following steps are the same as STEP4-7 of the connection way above.

## 6.2 Remote Preview

It will first enter remote preview interface as below.

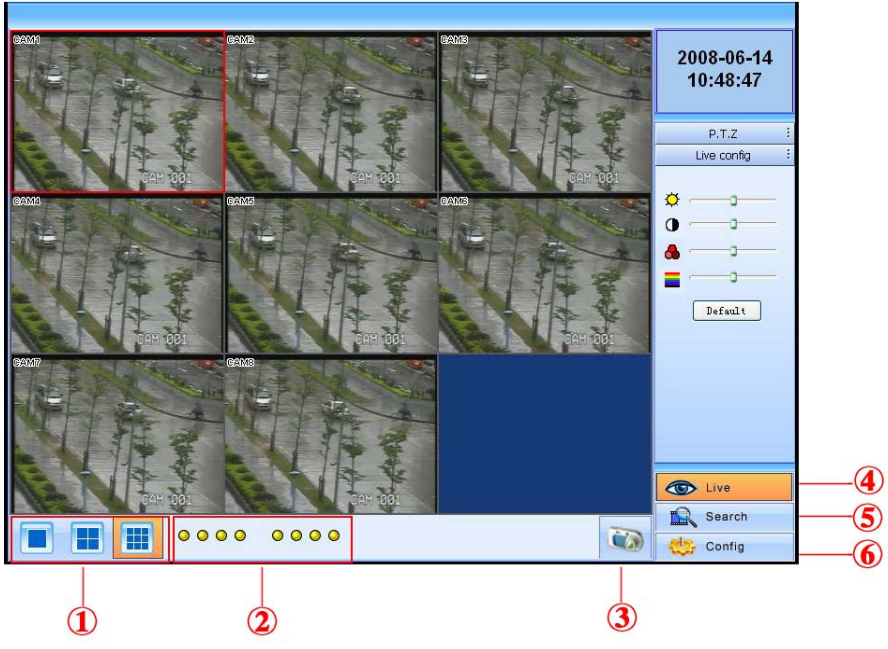



Fig 6.2 Remote Preview Interface

① Full screen, 1/4/8 screens display mode.

② Camera indicators:

③ Picture snapshot

④ Remote preview: adjust the color of cameras and control PTZ.

⑤ Remote playback and backup: make remote playback and backup, check system log and journal. Please refer to 6.3 Remote Playback &Backup.

⑥ Remote menu setup: set the parameters remotely. Please refer to 6.4 Remote Menu Configuration.

④, ⑤, and ⑥ are the function blocks. When one is active, the button will show orange.

## Snap pictures:

**STEP1** Click on a channel to choose. Click the button, a window will appear as Fig 6.3 Preview Snap.

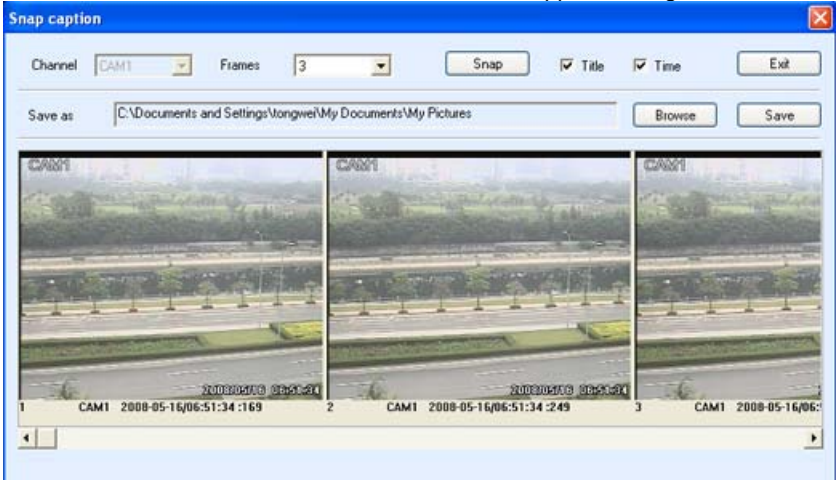



Fig 6.3 Preview Snap

**STEP2** Select frames captured one time. Enable Title and Time, it will capture title and time simultaneously.

**STEP3** Click Snap to capture pictures.

**STEP4** Click Browse to set saving path. Click *Save* to save pictures to HDD on the computer. And the saving folder

window will pop up.

**STEP5** Click Exit to return to live preview interface.

### Color adjustment:

Click on a channel to choose. Drag the slide bar to adjust Brightness, Contrast, Hue, and Saturation. Click Default to reset them to original value.

### PTZ control:

Click P.T.Z to enter the interface as below. Click on a channel to select the speed dome.

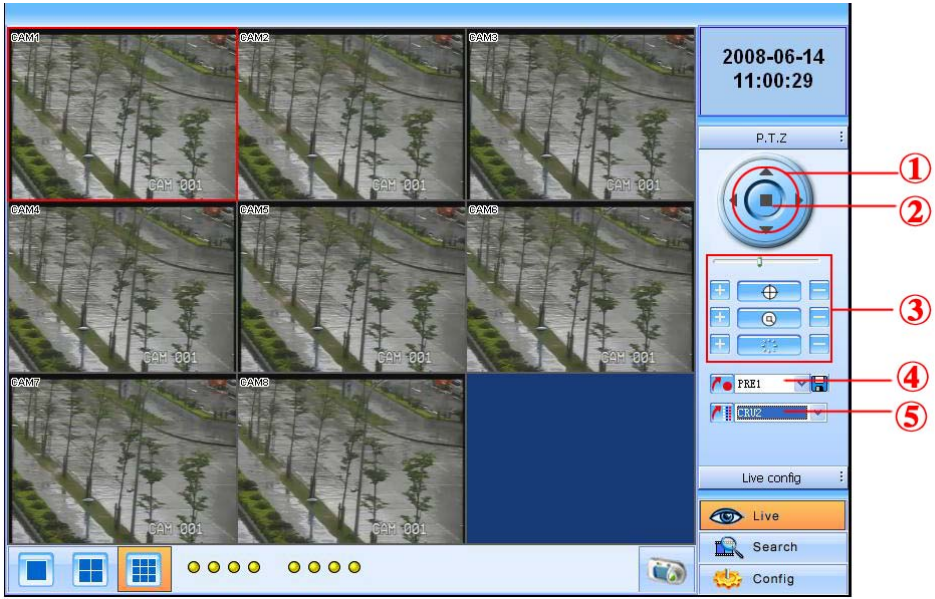



Fig 6.4 Remote PTZ control

① Move the speed dome.

② Stop adjustment.

③ Adjust zoom, focus, Iris, Speed.

④ Go to the preset. Click to rename the preset.

⑤ Select and do auto cruise.

Click right mouse, a pull-down menu will appear as below.

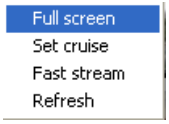



Fig 6.5 Preview Control Menu

**Full screen:** the picture will fill the screen, without tools bar display. Double click or click right mouse to return to the previous interface.

**Set cruise:** select this function to set, the window below will appear.

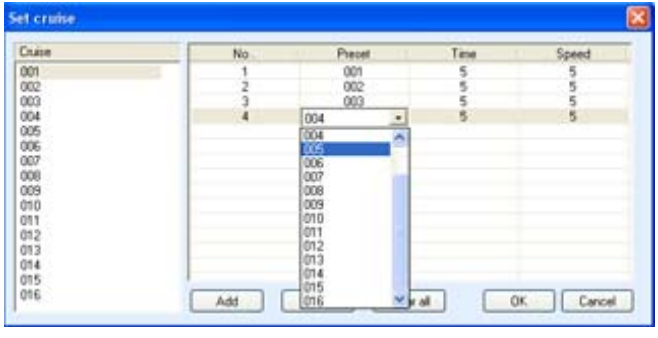



Fig 6.6 Set Cruise

Click *Add* to add presets for the selected cruise. Click the preset, a down list menu will pop up. Users can select presets to add. Double click Time to set display time in auto cruise. Click Delete or Clear all to delete the presets. Click OK to save and exit.

**Fast stream:** enable the master stream. This DVR supports dual stream, sub stream and master stream. Sub stream has low frame rate, max 3fps for every channel, referring to 4.2.7 Network Configuration. It requires low network bandwidth.

Master stream has higher frame rate, max 30fps for every channel. It also needs higher network bandwidth

simultaneously. Therefore, users can select the stream according to their bandwidth.

**Refresh:** update the picture on the channel. Sometimes the picture on one channel will freeze due to network block. At this time, users can refresh the pictures.

## 6.3 Remote Playback &Backup

### 6.3.1 Remote Playback

Click Search to enter the playback and backup block as below, where users can make remote playback, remote backup and remote video file management.

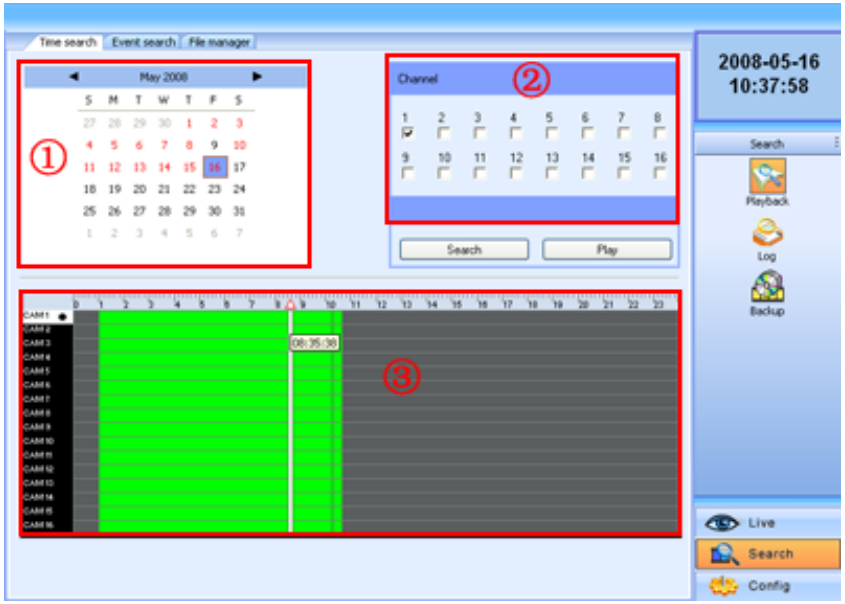



Fig 6.7Remote Playback &Backup Interface

This DVR supports remote time search, event search and one channel playback. The above is the default interface after entering Playback &Backup block.

## By time search:

**STEP1** Select the date in calendar area①, select the channel in channel area②.

**STEP2** Click Search button to update the search result. All the recorded found will display in video data area③.

**STEP3** In area③, the top bar refers to hours and minutes in a day. The left column refers to cameras. Drag the slide bar

to a time point.

Click right mouse on of the slide bar. It will zoom in 10 times, which is helpful for users to point the start time of playback accurately.

**STEP4** Click Play button to do remote playback, referring to Fig 6.8 Remote Playback.

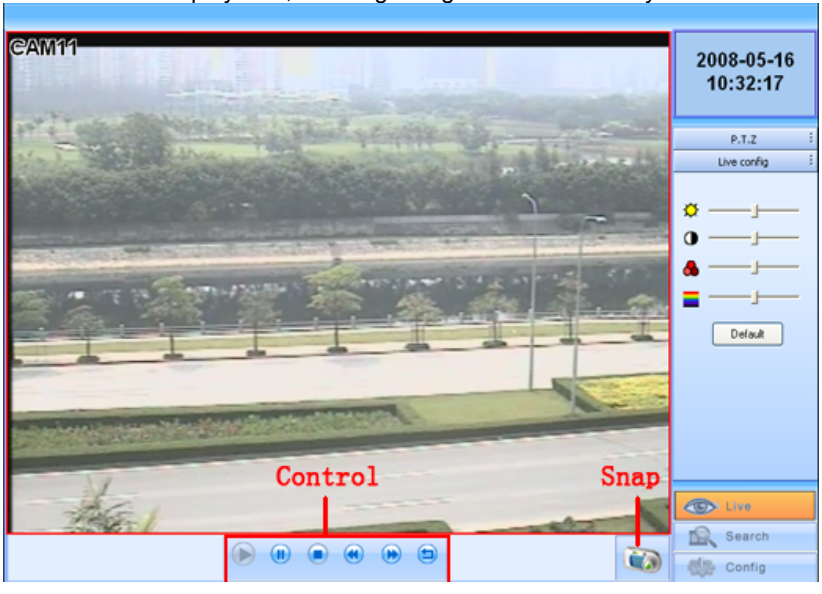



Fig 6.8 Remote Playback

**STEP5** Users can make fast forward/backward, pause, stop playback and snap pictures. About snap feature, it is the same as that in remote preview, referring to Fig 6.3 Preview Snap.

**STEP6** Click to return to search interface.

### By event search:

**STEP1** Click Event search, the window will display as below.

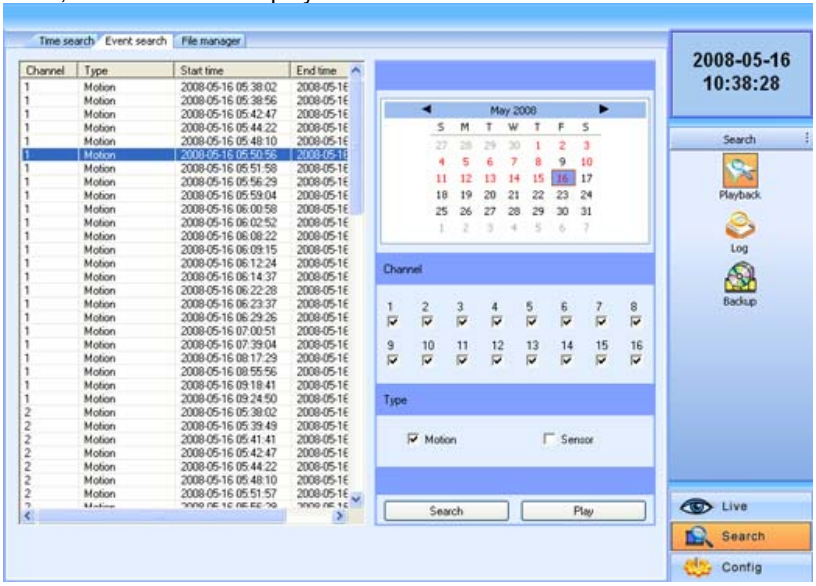



Fig 6.9 Remote Event Search

**STEP2** Select the date, channel and event type. Then click Search. All the files found will be listed in left area.

**STEP3** Select a event, and click Play button to do remote playback. The following steps are the same as SETP5-6 of time search above.

### 6.3.2 Remote Backup

Users can download the recorded files from the DVR through network. Click Backup to enter the interface as below.

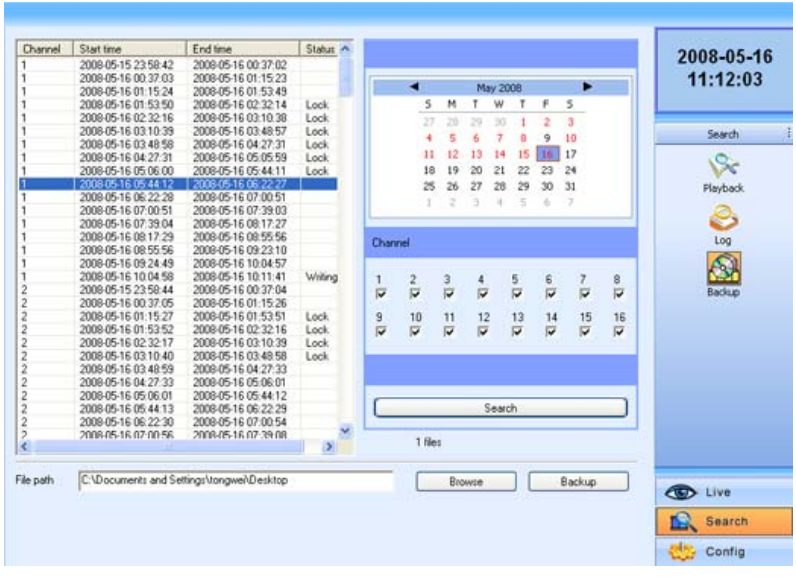
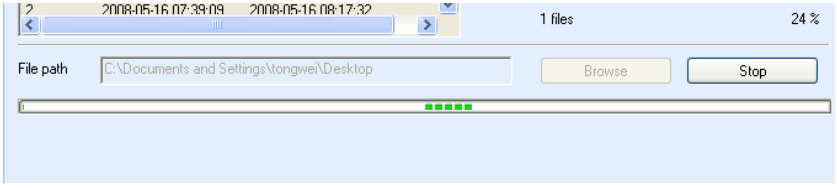



Fig 6.10 Remote Backup Interface

**STEP1** Select the date, channel. Then click Search button. It will list all the files recorded in the day in left area.
**STEP2** Click Browse button. Set the saving path.
**STEP3** Select files in left file area. Holding shift button, you can select multi files with mouse simultaneously.
**STEP4** Click Backup to do remote backup. It will show the process on the bottom of the screen as below.




***Notice**: the backup file is AVI format. Users can play with the third player directly.*

## 6.4 Remote Menu Configuration

Except network parameters, users can set all the parameters like resolution, schedule remotely through network, not going to the DVR. Click Setup to enter the interface as below.

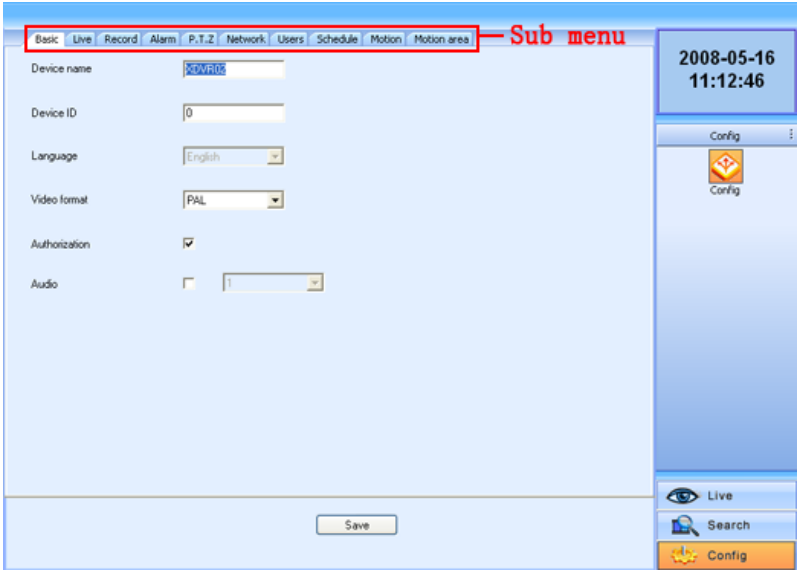
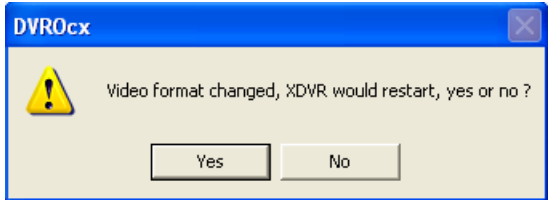



Fig 6.11 Remote Menu Setup

The sub menu lists and the options in every sub menu are similar with those on the DVR. Please refer to 4.2 Main Menu Setup to do setup.

Click *Save* to save the change. Some changes may pop up a dialog box as below and need restart.




## 6.5 Remote DVR Management

### 6.5.1 Check System Log Remotely

Users can check system log remotely. About the details of system log, please refer to Tab 5.1 Details of System Log.

**STEP1** Click Search---->Log, the window below will appear. Event log search is the default interface.

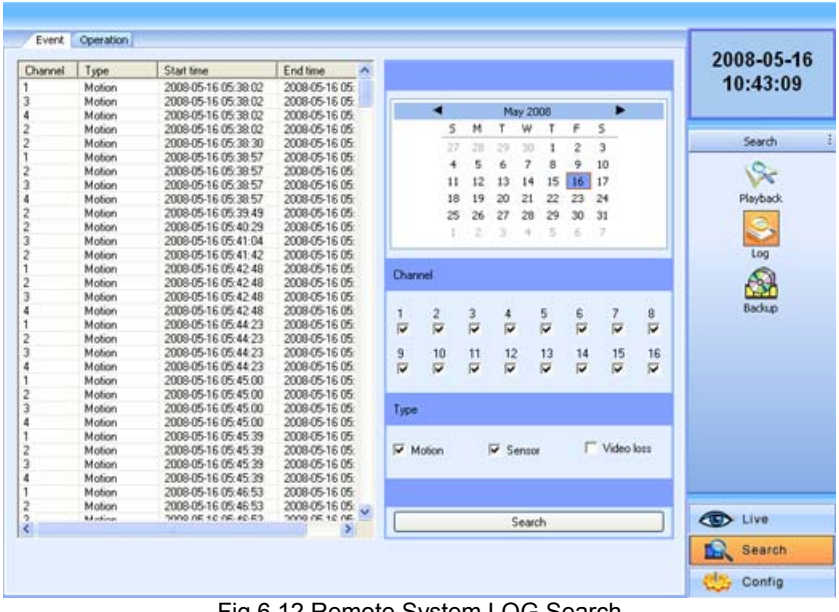



Fig 6.12 Remote System LOG Search

**STEP2** Select the date, channel and event type. Then click Search.
**STEP3** The entire log found will be listed in left area.
**STEP4** Click Operation to enter operation Log search interface

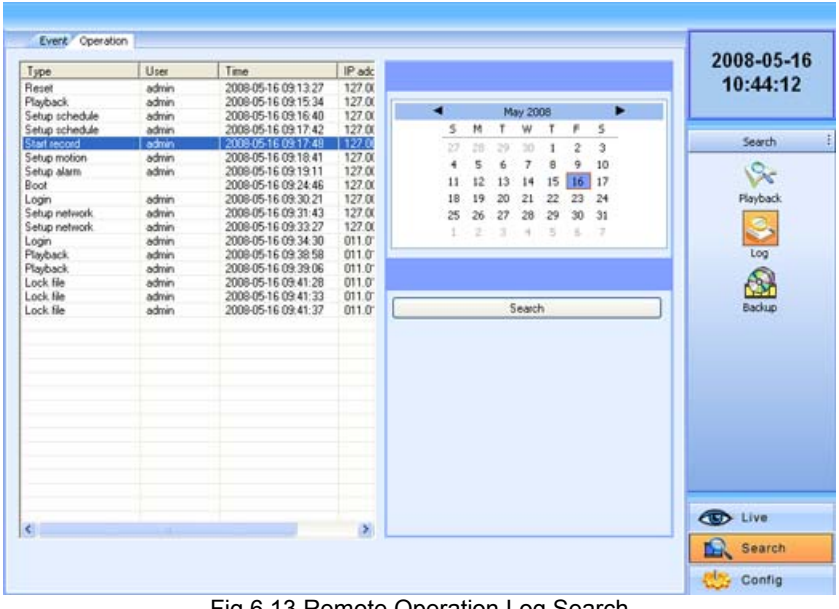



Fig 6.13 Remote Operation Log Search

**STEP5** Select the date and click Search. It will list all the log files in the day in left area.

### 6.5.2 Lock &Delete Files Remotely

Users can lock and delete video files through network. About the details of this feature please refer to 5.7 Lock &Delete Files.

**STEP1** Click Search---->Playback---->File manager, the window below will appear.

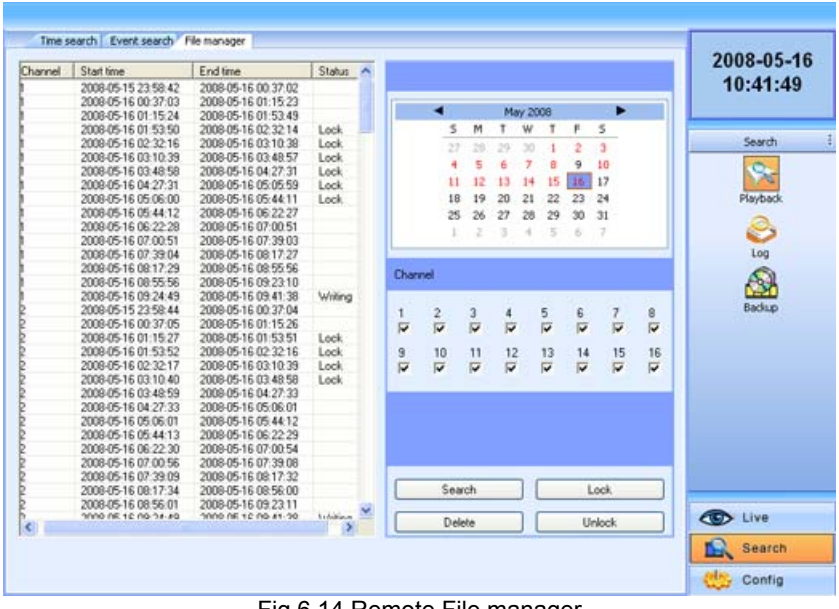



Fig 6.14 Remote File manager

**STEP2** Select date and channels, and then click Search. All the files found will be listed in the day in left area.
**STEP3** The relative status will show “Lock” if the file is locked. “Writing” means the file is still in being written.
**STEP4** Select the files which is unlocked, click Delete. A security window will display to remind users. Click Ok to delete them.

***Notice**: In all calendar search areas above, the date will be highlighted if there is data recorded.*

# CHAPTER 7 Mobile Surveillance

This DVR supports mobile surveillance by PDA or smart phones with WinCE and symbian OS. At the same time, it supports 3G network. We tested Dopod D600 (WM5) and Dopod S1(WM6), which work fine with the DVR.

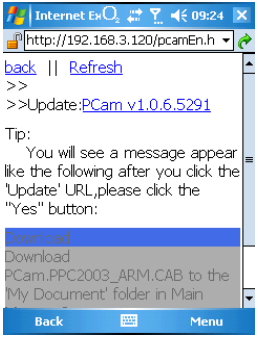
It wants to make mobile surveillance, need first enable network service on the DVR, referring to 4.2.7 Network Configuration. The below is the use instructions on mobile client end for two OS.

***Notice**: It supports only live view by mobile devices and on channel at a time.*

## 7.1 By Phones with WinCE

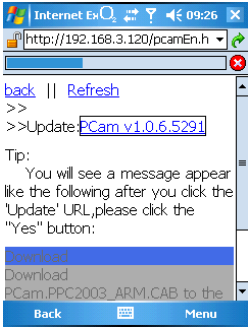
Please use the PDA or smart phones with WinCE version supported by this unit.

**STEP1** Firstly, activate the network access on mobile phone, and then run “Internet Explorer”.
**STEP2** Input the DVR server’s address and the connection is built up shown as below.

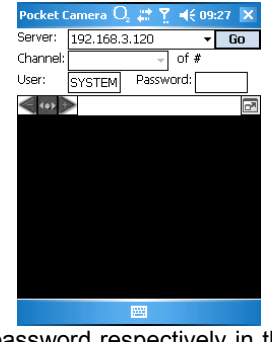



**STEP3** Click on the software name. A dialog box pops up.

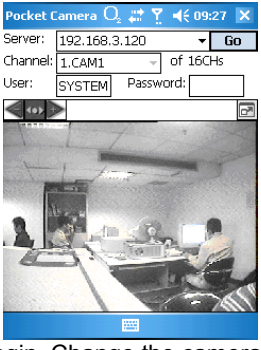
**STEP4** Click “Yes” to download and install.



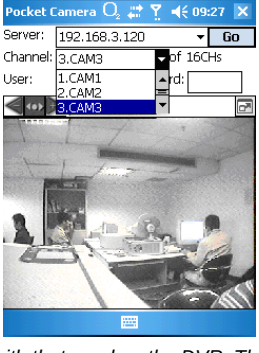

**STEP5** PCam will be opened after installed.




**STEP6** Input the server's address, ID, and password respectively in the columns of "Server", "User" and "Password". And click "Go" to login the DVR. It will show the picture if accessing successfully.




**STEP7** Camera 1 is the default display after login. Change the camera in rolling-down menu of “Channel”.



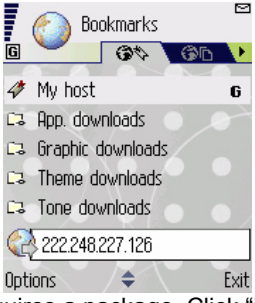

***Notice**: User name and password here are the same with that used on the DVR. The default is admin and 123456.*

## 7.2 By Phones with Symbian

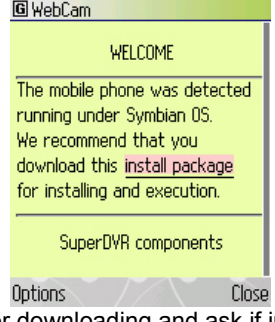
Please use the smart phones with symbian version supported by this unit.

**STEP1** Firstly, enable the network access on mobile phone, and then run Web browser.

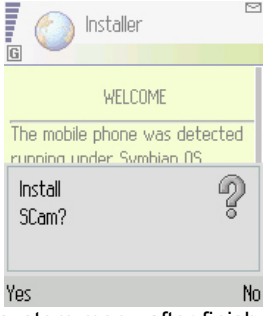
**STEP2** Input the DVR server's IP address in a new-built bookmark. Click this bookmark to connect to the DVR.




**STEP3** A welcome window will pop up and requires a package. Click "**install package**" to download.

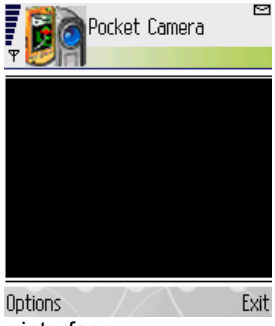



**STEP4** The security windows will pop up after downloading and ask if installing the package. Click YES to install.



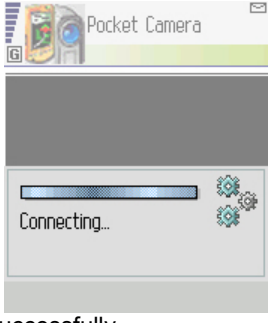

**STEP5** A Scam shortcut icon appears on the system menu after finish.

**STEP6** Run Scam program.




**STEP7** Click Options--->Settings to enter login interface.

**STEP8** Input the server's address, ID and password respectively. And click OK to login the DVR.




**STEP9** It will show the camera after access successfully.

***Notice**: User name and password here are the same with that used on the DVR. The default is admin and 123456.*

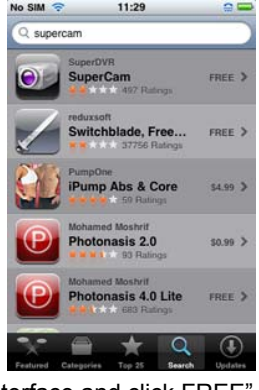
## 7.3 The operation method for iPhone mobile clients

At present, the software only supports version of iPhone os2.2 and above, if phone firmware lower than this version please upgrade it.

Step1：Enter into App Store function of iPhone

Step 2: Enable “search”

function to search “SuperCam”, the required programs will be displayed on the top of search box

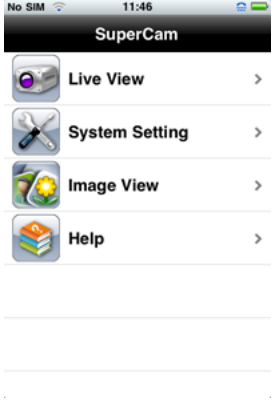



Step 3: Click SuperCam, enter into “introduce” interface and click FREE”, it will change into “INSTALL”

Step 4: Enter into iTunes Store password, click “OK”will display below interface

Note: if it was the first time for user to operate please enter into user ID; if there is no Store account, user need to apply one.

Step 5: Just be patient to download and install. After installed, SuperCam icon will display. Click this icon, a function interface will appear



Step 6: Click “System setting”, enter into login interface. Enter into server’s IP address (or domain name), user’s ID and password. Click Back to save.

Step 7: Click Live View, the default Cam1 picture will be displayed. Click to capture picture. Click to enter PTZ mode.

Step 8: On function interface, click Image View to view the captured picture. Click or to switch to next or previous picture. Click to delete the current picture.

## Iphone help

Pic1 Pic2 Pic3 Pic4

## Live View

After successfully installed SuperCam software, Click on System Setting (Pic 1), and then input Server IP address or Domain, User name and password to log in (Pic 2). If connected successfully, it will go to Live View of CH1 as default (Pic 3), please choose other desired channels from channel button underneath. Meanwhile, please note below functions:

1. : switch channels
2. : picture snap.
3. : ptz control (if server camera is PTZ Camera only) (pic 4)

## PTZ Control buttons:

1 : pan

2 ZOOM : Zoom Zoom in Zoom out

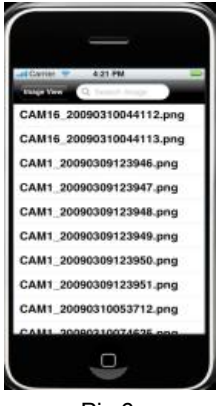
3 FOCUS : Focus. Long Focus Short Focus

4 IRIS : IRIS Lighter Darker

5 : return to live

## Image View

Pic 5




Pic 6

1. : Previous picture
2. : Next Picture
3. : The first Picture
4. : The last picture
5. : Delete
6. : Search Pictures, search page as Pic 6

# Appendix A FAQ

**Q1. Why the DVR cannot start after connected to the power?**

a. The adapter has been damaged. Please change an adapter

b. The power of the adapter is not enough. Please remove the HDD to check

c. Hardware problem

**Q2. The indicator of the DVR lights, but no output. Why?**

a. The power of the adapter is not enough. Please remove the HDD or change an adapter to try.

b. The video format of the DVR is different from that of the monitor.

c. Connection problem. Please check the cable and the ports of monitor and DVR.

**Q3. Why are no images displayed on parts or all of the channels of the DVR?**

a. Connection problem. Please check the cable and the ports of camera and DVR.

b. Camera problem. Please check the cameras.

c. The video format of the DVR is different from that of the cameras. Please change DVR system format.

**Q4. Cannot find HDD**

a. The power of the adapter is not enough. Please change an adapter to try.

b. Connection problem. Please check the power and data cables.

c. The HDD is damaged. Change a new one.

**Q5. Cannot record**

a. Don't format HDD. Please format it manually first.

b. Don't enable record function or incorrect setup. Please refer to 3.3 Recording.

c. HDD is full and not enables recycle function. Please refer to 4.2.3 Record Configuration. Chang a new HDD or enable recycle.

d. The HDD is damaged. Change a new one.

**Q6. Cannot use mouse.**

a. wait 5 minutes after mouse connected.

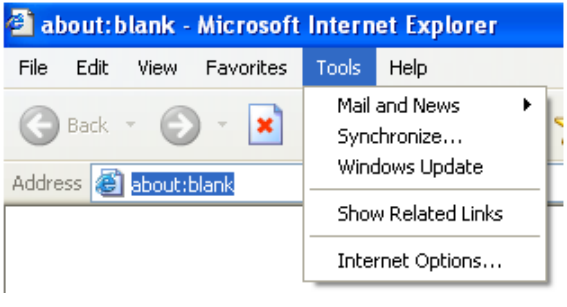
b. Not detected. Plug/unplug several times.

c. The mouse is incompatible. Please change a mouse.

**Q7. Cannot download ActiveX control.**

a. IE browser blocks activeX. Please do setup following below.

① Open IE browser. Click Tools-----Internet Options….



② select Security------Custom Level….Refer to Fig 7-1

③ Enable all the sub options under “ActiveX controls and plug-ins”. Refer to Fig 7-2

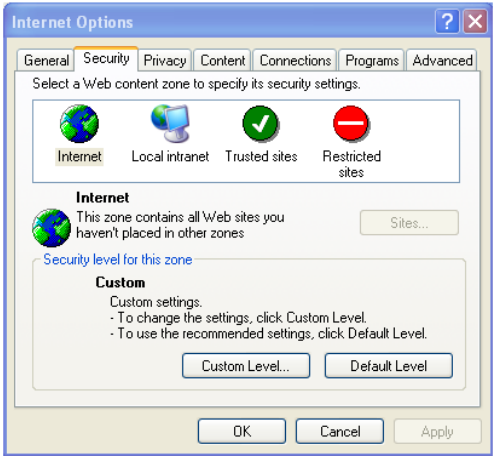



Fig7-1

Fig7-2

④ Then click ok to finish setup.

b. Other plug-ins or anti-virus block activeX. Please uninstall or close them.

**Q8: How to deal with when DVR starts, it displays “please wait…”all the time**

First possible reason: hard-disk cable and data cable are not well connected.

Solution: Please check the connection of hard-disk cable and data cable and make sure they are well connected; If still not working, please unplug them and then try re-plugging again;

Second possible reason: It is forced to stop because hard disk has disabled track which causes the system checking hard

disk cannot skip

Solution: Change another new hard disk or reformat the broken one

**Q9: The mouse inserting into the front USB jack does not work**

Hereby the front USB jack is only for backup of U disk, USB DVD writer etc., and not support USB mouse. Please use the USB jack in the rear panel if using mouse to operate.

**Q10: How to input password and digital numbers**

The method to input password and digital numbers is to click the box behind *password* or *items* needing to input by numbers, and then the small keyboard will appear. Please select number or letter to input (the initial password is 123456), or you can use the digital keys in the front panel, or the digital keys on the remote controller.

**Q11: How to upgrade when added new functions or revised software**

After getting the upgraded software from manufacturer, please copy it into U disk, and then select "*upgrade*" in the menu. If upgrading the kernel procedure, please refer to the following method: firstly insert U disk into DVR, and then input "adwsws" in the password of system login and the system will upgrade kernel procedure automatically. After finished, please restart DVR to achieve.

**Notice: Do not power off in the system upgrading process! Otherwise, it may cause that DVR cannot start.**

**Q12: Why is the hard disk used in a DVR identified a new hard disk if directly used to another same type DVR? And why must we format it again?**

When DVR only uses one hard disk, the hard disk removed from one to another same type DVR can work normally without format. When a DVR adds to a new hard disk, it will identify the hard disk as a new one and inquire whether to format no matter whether this hard disk used or not in another same type DVR before. In this condition, it can be used normally after formatted according to the guide; if two or more hard disks used in different DVRs, when used in another one DVR with the

same type, they will be identified to be two or more new hard disks, and all of them need to format. In general, please do not try using more disks removed from different DVRs into another one DVR in case the data lose.

**Q13: What is the minimum configuration of PC for clients connecting?**

| PC Module | Parameters |
|---|---|
| CPU | Intel Celeron 2.4G |
| Motherboard | Intel 845 |
| HDD | 80G |
| RAM | 512M |
| VGA | NVIDIA GeForce MX440/FX5200<br>ATIRADEON 7500/X300 |
| OS | Windows 2000(SP4 above) /Windows XP(SP2 above) /VISTA |
| DirectX | 9.0 |

# Appendix B Calculation of Recording Capacity

Users can calculate the size of hard disk according to the saving time and DVR recording settings. The DVR uses fixed video bit rate. The below are the details at different settings for 200 fps 8-channel DVR.

| Video Format | Resolution | Farm Rate Totally (FPS) | Video Quality | Bit Rate (kbps) | Used Space (MB/h) |
|---|---|---|---|---|---|
| PAL | CIF | 25 | Highest | 640 | 281 |
| | | | Higher | 512 | 225 |
| | | | Medium | 384 | 168.7 |
| | | | Lower | 256 | 112.5 |
| | | | Lowest | 128 | 56 |
| NTSC | CIF | 30 | Highest | 640 | 281 |
| | | | Higher | 512 | 225 |
| | | | Medium | 384 | 168.7 |
| | | | Lower | 256 | 112.5 |
| | | | Lowest | 128 | 56 |

The calculation format is:

**Total Recording capacity =Used space per hour (MB/h) (coverage rate of hard disk) × recording time (hour) ×channel numbers**

For instance, one customer uses NTSC cameras, set resolution to CIF, video quality to Lower, frame rate to 240 fps for enabling total 8 channels. He wants the unit to record continuously in a month. Below is the calculation:

Total Recoding capacity =112.5(mb/h) X 24(hours/day) X30(days) X8(channels)

= 648000(MB)

= 648(GB)

Therefore, customers just install two SATA HDDs with 320GB, it can almost record for one month.

**For 4-channel DVR:**

Total Recoding capacity =112.5(mb/h) X 24(hours/day) X30(days) X4(channels)

= 324000(MB)

= 324(GB)

If users install one 320GB SATA HDD, it can almost record one month.

**For 16-channel DVR:**

Total Recoding capacity =112.5(mb/h) X 24(hours/day) X30(days) X16(channels)

= 1296000(MB)

= 1296(GB)

Thus, users should install four 320 GB SATA HDD, they can record about one month.

# Appendix C Compatible Devices

## 1. Compatible USB drive after test

| Brand | Capacity |
|---|---|
| SSK | 512MB, 1G, 2GB |
| Netac | 4GB |
| Kingston | 2GB |
| Aigo | 2GB |
| Smatter vider | 1GB |
| SanDisk | 4GB |

Tab C.1 Compatible USB drive

## 2. Compatible SATA CD/DVD writers after test

| Brand | Model |
|---|---|
| TECLAST | GH22NP20/TL-22XD |
| BENQ | DW220S-0K4 |
| LITEON | DH—20A6S01C |
| LITEON | DH-20A4P02C |
| SAMSUNG | TS-H653B |

Tab C.2 Compatible CD/DVD writers

# Appendix D DVR Specifications for 8-channel DVR

| | |
|---|---|
| Compression format | Standard H.264 Baseline |
| Video output | Composite：1.0V p-p/75Ω，BNC×2 S-VIDEOX1, VGAX1 |
| Video input | Composite：1.0V p-p/75Ω，BNC×8 |
| Display Resolution | 720*576 (PAL), 720*480 (NTSC) |
| Record Resolution | 352*288 , 704*576 (PAL), 352*240 , 704*480 (NTSC) |
| Display Frame Rate | 200FPS (PAL), 240FPS (NTSC) |
| Record Frame Rate | 200FPS, 50FPS (PAL) ; 240FPS, 60FPS (NTSC) |
| Audio input | -8dB~ 22k, RCA X8 |
| Audio output | -8Db~92dB, RCA X1 |
| Alarm input | NO or NC 8CH |
| Alarm output | 4CH |
| Record Mode | Manual / Sensor /Timer / Motion detection |
| Simplex/Duplex/Triplex | Pentaplex |
| Network Interface | RJ45 (LAN, INTERNET) |
| PTZ control | YES |
| Communication interface | RS485, USB2.0 x 2(one for backup, another for USB mouse), PS/2 x 1, |
| Hard disk info | SATA x 3+DVD-RW x 1 or SATA ×4 |
| Remote controller | YES |
| Power supply | 220V or 110V |

# Appendix E DVR Specifications for 4-channel DVR

| | |
|---|---|
| Compression format | Standard H.264 Baseline |
| Video output | Composite：1.0V p-p/75Ω，BNC×2 S-VIDEOX1, VGAX1 |
| Video input | Composite：1.0V p-p/75Ω，BNC×4 |
| Display Resolution | 720*576 (PAL), 720*480 (NTSC) |
| Record Resolution | 352*288 , 704*576 (PAL), 352*240 , 704*480 (NTSC) |
| Display Frame Rate | 100FPS (PAL), 120FPS (NTSC) |
| Record Frame Rate | 100FPS, 25FPS (PAL) ; 120FPS, 30FPS (NTSC) |
| Audio input | -8dB~ 22k, RCA X4 |
| Audio output | -8Db~92dB, RCA X1 |
| Alarm input | NO or NC 4CH |
| Alarm output | 4CH |
| Record Mode | Manual / Sensor /Timer / Motion detection |
| Simplex/Duplex/Triplex | Pentaplex |
| Network Interface | RJ45 (LAN, INTERNET) |
| PTZ control | YES |
| Communication interface | RS485, USB2.0 x 2(one for backup, another for USB mouse), PS/2 x 1, |
| Hard disk info | SATA x 3+DVD-RW x 1 or SATA ×4 |
| Remote controller | YES |
| Power supply | 220V or 110V |

# Appendix F DVR Specifications for 16-channel DVR

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|---|---|
| Compression format | Standard H.264 Baseline |
| Video output | Composite：1.0V p-p/75Ω，BNC×2 S-VIDEOX1, VGAX1 |
| Video input | Composite：1.0V p-p/75Ω，BNC×16 |
| Display Resolution | 720*576 (PAL), 720*480 (NTSC) |
| Record Resolution | 352*288 , 704*576 (PAL), 352*240 , 704*480 (NTSC) |
| Display Frame Rate | 400FPS (PAL), 480FPS (NTSC) |
| Record Frame Rate | 400FPS, 100FPS (PAL) ; 480FPS, 120FPS (NTSC) |
| Audio input | -8dB~ 22k, RCA X16 |
| Audio output | -8Db~92dB, RCA X1 |
| Alarm input | NO or NC 16CH |
| Alarm output | 4CH |
| Record Mode | Manual / Sensor /Timer / Motion detection |
| Simplex/Duplex/Triplex | Pentaplex |
| Network Interface | RJ45 (LAN, INTERNET) |
| PTZ control | YES |
| Communication interface | RS485, USB2.0 x 2(one for backup, another for USB mouse), PS/2 x 1, |
| Hard disk info | SATA x 3+DVD-RW x 1 or SATA ×4 |
| Remote controller | YES |
| Power supply | 220V or 110V |